HS 280 / HS 210

2 x 65W 2.1-channel integrated Home-Theater System

User Guide
English

harman/kardon®
Designed to Entertain.™

HS 280/HS 210 Integrated Home-Theater System Owner's Manual

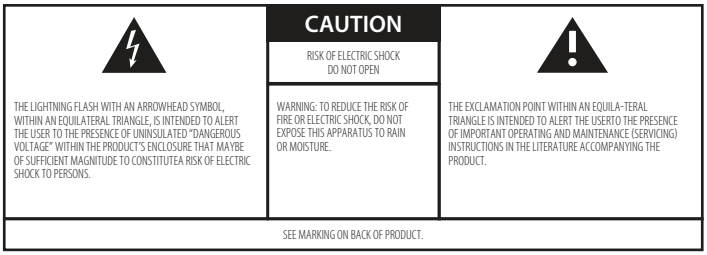
Table of Contents

Important Safety Instructions 3
Verify Line Voltage Before Using 3
Unpacking. 3
Installation Location 3
Cleaning. 3
Moving the Unit 3
Introduction 4
Thank You for Choosing the Harman Kardon® HS 280/HS 210! 4
HS 280/HS 210 Two-Channel DVD Receiver 4
    SAT TS60/SAT TS11 Satellite Speakers 4
    HKTS200SUB Subwoofer. 4
    Supplied Accessories (for HS 280) 5
    Supplied Accessories (for HS 210) 5
Receiver Front-Panel Controls 6
Receiver Information Display 7
Receiver Rear-Panel Connections 8
Subwoofer Controls and Connections 9
Remote Control Functions. 10
Placing the Speakers. 12
    Placing the Left and Right Satellite Speakers 12
    Placing the Subwoofer. 12
Satellite Speaker Mounting Options 12
    Shelf Placement 12
    Wall-Mounting the HS 280 Satellite Speakers 12
    Wall-Mounting the HS 210 Satellite Speakers 13
Connections. 14
    Connecting the Satellite Speakers 14
    Connecting the Subwoofer 15
    Connecting the FM Antenna 16
    Connecting a TV or Video Display 16
    Connecting the SCART Cable 16
    Connecting Audio Sources. 16
    Connecting an Audio Recorder 17
    Connecting to a Local Area Network (LAN) 17
    Connecting the AC Power 17
Preparing the Remote Control 17
    Installing the Batteries 17
    Using the Remote Control 17
    Programming the Remote Control 17
    Teaching Codes to the Remote Control. 18
    Using the Remote Control After it is Programmed 18
Setting Up the Receiver 18
    Using the On-Screen Menu System. 18
Settings Menu 19
    Video Settings 19
    Audio Settings 19
    Network Setings 20
    Preferences 20
Activity Menu. 21
Bookmarks 21
Using the DVD Player 21
Using the FM Tuner 23
Listening to Audio Sources 24
Playing Files from USB Devices 24
Playing Files from Networked Devices. 25
Troubleshooting 27
DVD Language Code List. 28
Specifications. 31

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. Do not expose batteries to excessive heat such as sunshine, fire or the like.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
THE LIGHTNING FLASH WITH AN ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAYBE OF SUFFICIENT MAGNITUDE TO CONSTITUTEA RISK OF ELECTRIC SHOCK TO PERSONS.
WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
THE EXCLAMATION POINT WITHIN AN EQUILA-TERAL TRIANGLE IS INTENDED TO ALERT THE USERTO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE PRODUCT.
SEE MARKING ON BACK OF PRODUCT.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

Verify Line Voltage Before Using

Your HS 280/HS 210 receiver has been designed for use with 100 – 240 volt ~ 50/60Hz AC power. Your HKTS200SUB subwoofer has been designed for use with 220 – 240 volt ~50/60Hz AC current. Connection to a line voltage other than that for which the unit is intended can create a safety and fire hazard, and may damage the unit. If you have any questions about the voltage requirements for your specific model, or about the line voltage in your area, contact your selling dealer before plugging the unit into a wall outlet.

Unpacking

The carton and shipping materials used to protect your new receiver during shipment were specially designed to cushion it from shock and vibration. We suggest that you save the carton and packing materials for use in shipping if you move or if the unit ever needs repair.

To minimize the size of the carton in storage, you may wish to flatten it. You can do it by carefully slitting the tape seams on the carton's bottom and collapsing it. You can store cardboard inserts in the same manner. Packing materials that cannot be collapsed should be saved along with the carton in a plastic bag.

If you do not wish to save the packaging materials, please note that the carton and other sections of the shipping-protection materials are recyclable. Please respect the environment and discard those materials at a local recycling center.

Remove the protective plastic film from the front-panel lens. Leaving the film in place will affect the performance of your remote control.

Installation Location

- To ensure proper operation and to avoid the potential for safety hazards, place the unit on a firm and level surface. When placing the unit on a shelf, be certain that the shelf and any mounting hardware can support the weight of the product.
- Provide proper space both above and below the unit for ventilation. If this product will be installed in a cabinet or other enclosed area, make certain that there is sufficient air movement within the cabinet. Under some circumstances, a fan may be required.
- Do not place the unit directly on a carpeted surface.
- Avoid installation in extremely hot or cold locations, or in an area that is exposed to direct sunlight or heating equipment.
- Avoid moist or humid locations.
- Do not obstruct the ventilation slots on the top and sides of the unit or place objects directly over or next to them.
- Due to the weight of the HS 280/HS 210 receiver and the heat that its amplifier generates, there is the remote possibility that the rubber padding on the bottom of the unit's feet may leave marks on certain wood or wood veneer materials. Use caution when placing the unit on soft woods or other materials that heat or heavy objects may damage. Some surface finishes may be particularly sensitive to absorbing such marks, due to a variety of factors beyond Harman Kardon's control, including the nature of the finish, cleaning materials used, normal heat and vibration caused by the use of the product, or other factors. Exercise caution in choosing an installation location for the component and in performing normal maintenance practices, as your warranty will not cover this type of damage to furniture.

Cleaning

When the unit gets dirty, wipe it with a clean, soft, dry cloth. If necessary, and only after unplugging the AC power cord, wipe it with a soft cloth dampened with mild soapy water, then a fresh cloth with clean water. Wipe it dry immediately with a dry cloth. NEVER use benzene, aerosol cleaners, thinner, alcohol or any other volatile cleaning agent. Do not use abrasive cleaners, as they may damage the finish of metal parts. Avoid spraying insecticide near the unit.

Moving the Unit

Before moving the unit, disconnect any interconnection cords with other components, and disconnect the unit from the AC outlet.

Introduction

Please register your product on our Web site at www.harmankardon.com.

Note: You'll need the product's serial number. At the same time, you can choose to be notified about our new products and/or special promotions.

www.harmankardon.com

Thank you for choosing the Harman Kardon® HS 280/ HS 210!

In the years since Harman Kardon invented the high-fidelity receiver, we have taken to heart this philosophy: Bring the joy of home entertainment to as many people as possible, adding performance and ease-of-use features that enhance the experience. With the introduction of the HS series of home-entertainment systems, Harman Kardon offers a complete home-entertainment solution with a wealth of listening and viewing options in one sleek component. Each HS series system also includes a 5.1-channel or 2.1-channel loudspeaker system, a system remote control and all the cables and accessories you need to enjoy movies and music in your own home, when you use them with your television or video display.

To get the maximum enjoyment from your new HS system, we urge you to read this manual thoroughly and refer back to it as you become more familiar with your new system's features and their operation.

If you have any questions about this product, its installation or its operation, please contact your retailer or custom installer, or visit our Web site at www.harmankardon.com.

NOTE: The built-in DVD player is designed and manufactured for compatibility with Region Management Information that is encoded on most DVDs. This player is designed only for playback of discs with Region Code 2 information or discs that do not contain Region Code information. If there is any other Region Code on a disc, it will not play in the HS 280/HS 210.

HS 280/HS 210 Two-Channel DVD Receiver

Audio Section

- 65 watts x 2 continuous power at 6 ohms (both channels driven), 20Hz – 20kHz, <0.5% THD (total harmonic distortion)

Audio Modes

- Dolby® Digital
- Dolby Virtual Speaker
- Stereo

Analog-Audio Inputs

- FM tuner (internal)
- DVD player (internal)
- Two left/right (L/R) line input connectors
- L/R input via SCART

Analog-Audio Outputs

- Headphone output
- Subwoofer output
- One L/R line output connector

Digital Audio Inputs

- Two coaxial
- Two optical
- Two USB 2.0 ports

Digital Audio Outputs

- One coaxial

Video Inputs

- DVD player (internal)

Video Outputs

- One HDMI™ (High-Definition Multimedia Interface™) version 1.2
- One S-Video
- One composite video
- S-Video and composite video via SCART

Speaker Outputs

- Front left and front right

Control Inputs/Outputs

- Subwoofer trigger output
- Infrared (IR) remote control input
- Infrared (IR) remote control output

Ease of Use

- On-screen menu system
- Dot-matrix front-panel information display
- Learning remote control (also controls your TV and a video component)

DVD Player Features

- Region 2 coding
- Plays five-inch (12cm) and 3-inch (8cm) discs
- Video formats supported: DVD, DVD-R, DVD-RW, DVD+R/RW, VCD, SVCD
- Audio formats supported: Dolby Digital, CD, CD-R/RW, MP3, WMA (v7-v8)
- Still-image formats supported: JPEG
- Video upscaling to 720p and 1080p (HDMI output only)
- Progressive-scan video output (HDMI only)
- MP3 bit rates: 32kbps – 320kbps
- WMA bit rates: 16kbps – 192kbps
- JPEG resolution supported: Five megapixels, 5MB file size
- Still-image rotation in 90-degree increments
- Fast Play rates: 2x, 4x, 8x, 16x, 32x
- Slow Play rates: 1x, 2x, 4x, 8x
- Random Play
- Repeat Play: One group/title, one track/chapter, one folder, one disc
- Disc recognition for up to 100 discs
- Playback control for VCDs
- Aspect-ratio adjustment

SAT TS60 Satellite Speakers (for HS 280)

- One 1" (25mm) CMMD® Lite dome video-shielded tweeter
- Two 3" (75mm) flat-diaphragm, video-shielded, midrange drivers
- 20 ~ 150 watts recommended power

SAT TS11 Satellite Speakers (for HS 210)

- One 1/2" (12mm) dome, video-shielded tweeter
- Dual 3" (75mm) drivers, video-shielded, midrange
- 10 ~ 120 watts recommended power

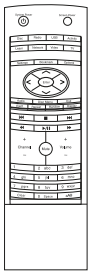
HKTS200SUB Subwoofer

- 8" (200mm) woofer in a sealed enclosure
- 200 watts RMS amplifier power
- Automatic turn-on and turn-off

Supplied Accessories (for HS 280)

The following accessory items are supplied with the HS 280 system. If any of these items are missing, please contact Harman Kardon Customer Service via www.harmankardon.com.

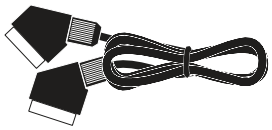
- System remote control



- HDMI cable

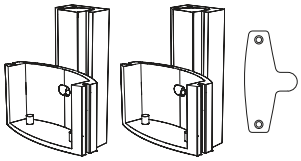
- Power cable

- SCART cable

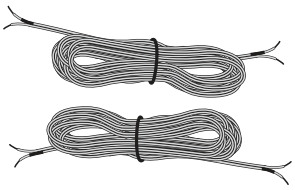


- FM wire antenna

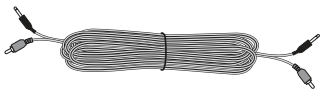
- Two speaker wall-mount brackets



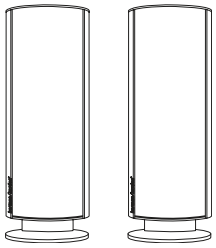
- Two five-meter (16.4-foot) speaker cables



- One combination LFE (low-frequency effects) and trigger cable for connection to the subwoofer



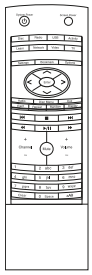
- Two TS-60 satellite speakers



Supplied Accessories (for HS 210)

The following accessory items are supplied with the HS 210 system. If any of these items are missing, please contact Harman Kardon Customer Service via www.harmankardon.com.

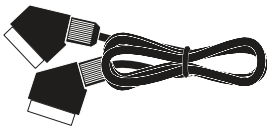
- System remote control



- HDMI cable

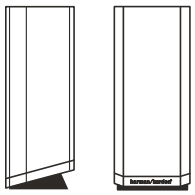
- Power cable

- SCART cable

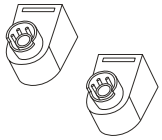


- FM wire antenna

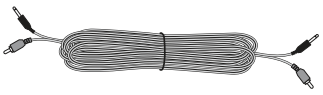
- Two TS-11 satellite speakers



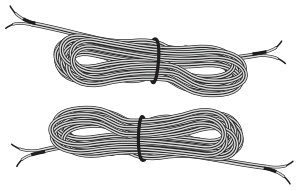
- Two wall-mount brackets



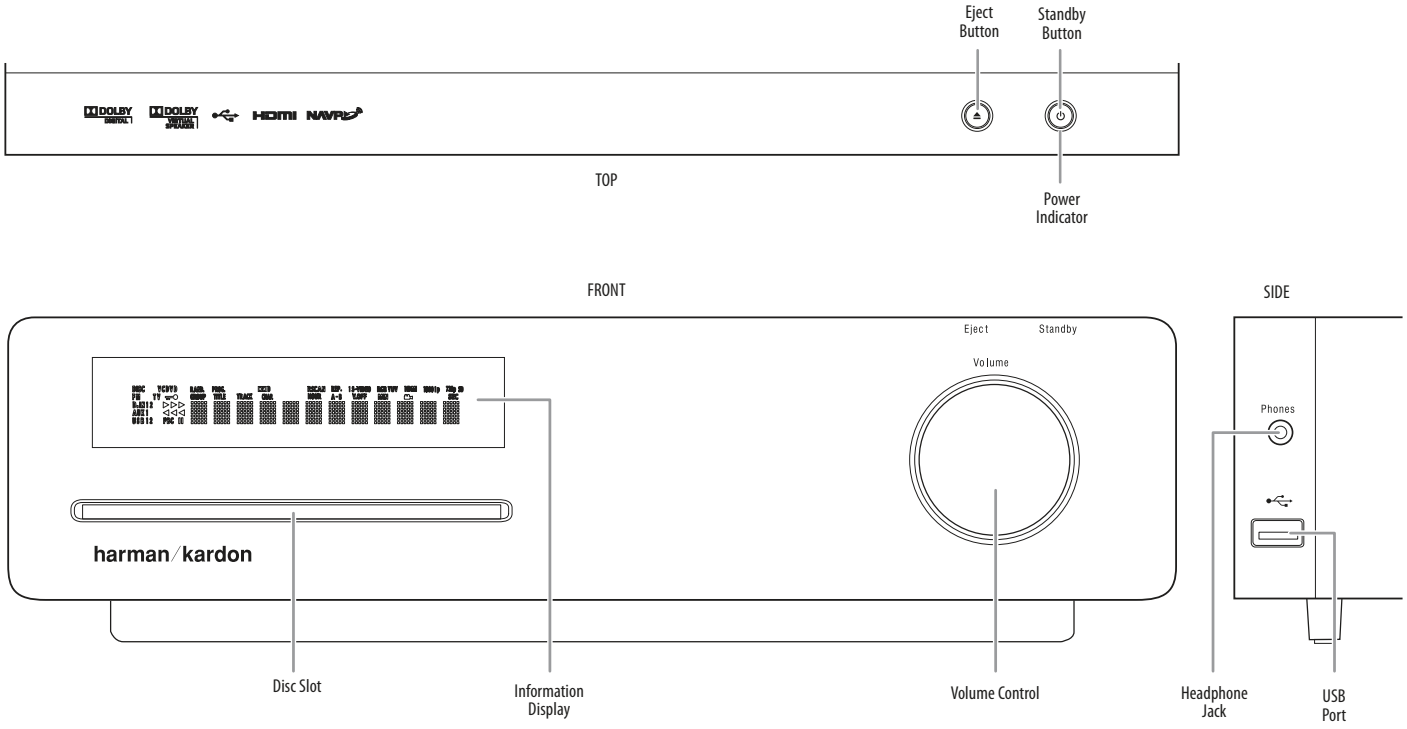
- One combination LFE (low-frequency effects) and trigger cable for connection to the subwoofer



- Two five-meter (16.4-foot) speaker cables



Receiver Front-Panel Controls



Disc Slot: Insert a compatible disc into the slot. The HS 280/HS 210's disc player will accept five-inch (12cm) and three-inch (8cm) discs.

Information Display: Various messages appear on this display in response to commands. In addition, a variety of indicators will light at various times to show the current source, settings or other aspects of the HS 280/HS 210's status as described throughout this manual. See *Receiver Information Display*, on page 7, for details.

Volume Control: Rotate the disc clockwise to raise the volume; rotate counterclockwise to lower the volume. The volume level will appear on the Information Display and on the on-screen menu (if the menu is enabled, see *Preferences – Volume Bar*, on page 20).

Eject Button (on top of unit): Press this button to eject a disc from the HS 280/HS 210's built-in DVD player. Before pressing this button, make sure that no objects are blocking the disc slot. NOTE: If you do not remove the ejected disc within 20 seconds, it will automatically re-load back into the DVD player for protection.

Standby Button (on top of unit): This button turns the HS 280/HS 210 on for playback or leaves it in the Standby mode for quick turn-on using this button or the remote control.

Power Indicator: This LED (light-emitting diode) surrounds the Standby switch. When the HS 280/HS 210 is plugged into AC power, the LED turns red to indicate that the HS 280/HS 210 is in Standby mode (ready to be turned on). When you turn the HS 280/HS 210 on (by the Standby switch or the remote control), the LED turns white.

Phones (headphones) Jack (on side of unit): Insert the 3.5mm stereo mini-connector from a set of headphones into this jack. NOTE: When a plug is inserted into the Phones jack, the HS 280/HS 210's speaker outputs automatically mute; the HDMI audio output, coaxial output and line output remain active.

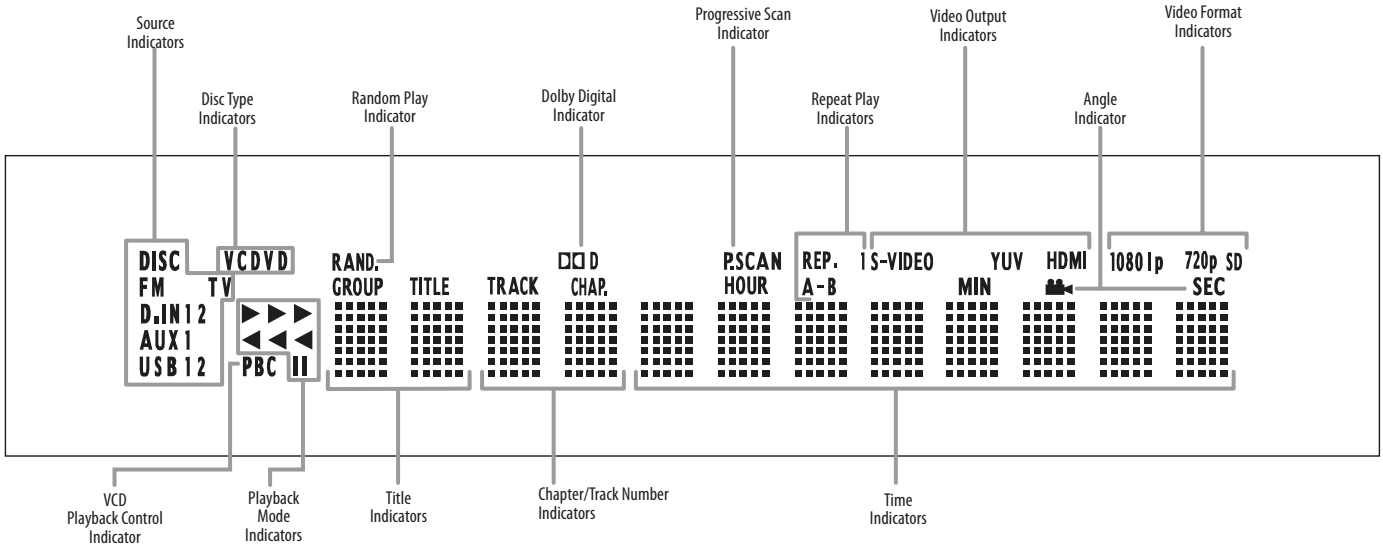
USB 2.0 Port (on side of unit):
Gently insert a flash drive, card reader, digital camera or other USB device, or a USB Standard-A cable connected to a USB device, to this port.

IMPORTANT: DO NOT connect a PC or other USB host/controller to this port, or you may damage both the HS 280/HS 210 and your other device.

Orient the other device's plug so it fits all the way into the HS 280/HS 210's USB connector. You may insert or remove the device at any time — there is no installation or ejection procedure.

The HS 280/HS 210 can play MP3 and Windows Media® Audio WMA audio files that are stored on the device. The HS 280/HS 210 can also display JPEG-format still-image files.

Receiver Information Display



Source Indicators: Indicate which source is currently playing.

Disc Type Indicators: Indicate the type of disc that is currently playing.

Random Play Indicator: Indicates that the disc player is in the Random Play mode.

Dolby Digital Indicator: Indicates that the soundtrack of the currently-playing disc is Dolby Digital-encoded.

Progressive Scan Indicator: Indicates that the disc player is outputting a progressive-scan video signal.

Repeat Play Indicators: Indicate that the disc player is in one of the Repeat Play modes: Rep. = repeat all; Rep. 1 = repeat track; A–B = A/B repeat.

Video Output Indicators: Indicate which type of video output is currently active.

Angle Indicator: Indicates when alternative viewing angles are available on the currently-playing DVD.

Video Format Indicators: Indicate which video format is currently playing.

VCD Playback Control Indicator: Indicates that the playback-control function is turned on when the HS 280/HS 210 is playing a VCD.

Playback Mode Indicators: Indicate the current disc playback mode:

- ► Indicates normal playback.
- ►► Indicates that the disc is in the forward fast-search mode. The video display will indicate the selected speed.
- ❙❙ Indicates that the disc is paused. The video display will also indicate that the disc is paused.
- ◄◄ Indicates that the disc is in the reverse fast-search mode. The video display will indicate the selected speed.

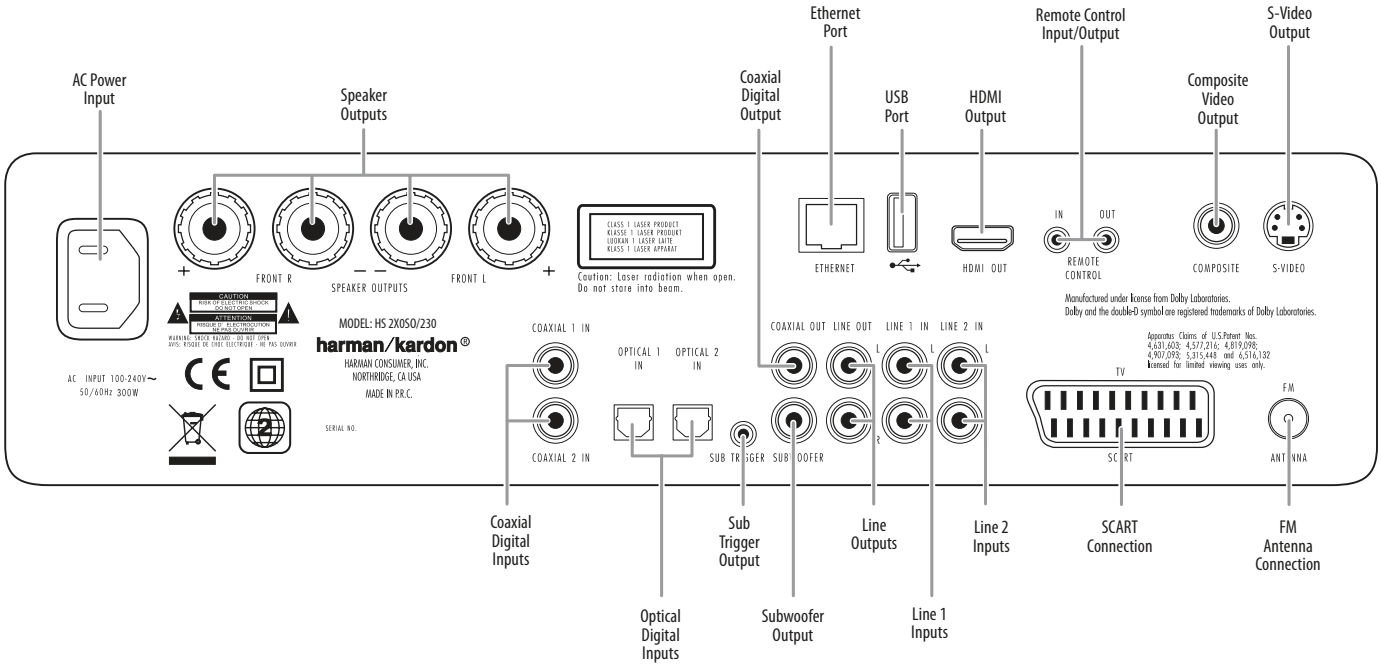
Title Indicators: Show the title number of a DVD that is playing.

Chapter/Track Number Indicators: Show the current chapter when a DVD is playing; show the current track number when a CD is playing.

Time Indicators: Show the running time when a DVD is playing; show elapsed time when a CD is playing.

NOTE: The Title, Chapter/Track Number and Time Indicators will also display the radio station name when Radio is the selected input. When a DVD or CD is playing, the indicators will display various text messages about the disc's status.

Receiver Rear-Panel Connections



See the *Connections* section, on page 14, for detailed information about making connections.

AC Power Input: After you have made and confirmed all other connections, plug the supplied AC power cord into this input and into an unswitched AC outlet.

Speaker Outputs: Use the speaker wires supplied with the SAT TS60 speakers to connect the satellite speakers to the proper terminals.

Be sure to connect the positive (+, colored red) connector on the speaker to the positive (+, colored red and white) connector on the HS 280/HS 210, and the negative (– , colored black) connectors on the speakers to the negative (–, colored black) connectors on the HS 280/HS 210. See *Connecting the Satellite Speakers*, on page 14, for more information about making connections.

Coaxial Digital Inputs: Connect the coaxial digital output of an audio-only source component here. The signal may be a Dolby Digital bitstream or a standard PCM digital audio bitstream.

NOTE: Use only one type of digital connection for each source component.

Optical Digital Inputs: Connect the optical digital output of an audio-only source component here. The signal may be a Dolby Digital bitstream or a standard PCM digital audio bitstream.

NOTE: Use only one type of digital connection for each source component.

Coaxial Digital Output: Connect this output to the coaxial digital input of a digital recording device such as a CD-R or MiniDisc recorder.

Sub Trigger Output: Use the black mini-cable connector of the supplied combination LFE and trigger cable to connect this jack to the HKTS200SUB subwoofer's External Trigger Input. See *Connecting the Subwoofer*, on page 15, for more details about making connections.

Whenever the HS 280/HS 210 is turned on, it will send a trigger signal that will turn the subwoofer's amplifier on. Turning the HS 280/HS 210 off removes the trigger signal, and the subwoofer's amplifier will turn off. (This change will occur even when the subwoofer's Power On Mode switch – see page 9 – is in the Auto position.)

Subwoofer Output: Use the LFE (purple) connector of the supplied combination LFE and trigger cable to connect this jack to the HKTS200SUB subwoofer's Line-Level In LFE jack. See *Connecting the Subwoofer*, on page 15, for more details about making connections.

Ethernet Port: Connect this port to your local area network (LAN) using a CAT 5 RJ45 network cable. See *Connecting to a Local Area Network (LAN)*, on page 17, for details.

Line Outputs: Use the Line Outputs to connect to an audio-only recorder, such as a CD-R recorder or tape deck.

USB 2.0 Port: Gently insert a flash drive, card reader, digital camera or other USB device, or a USB Standard-A cable connected to a USB device, to this port.

IMPORTANT: DO NOT connect a PC or other USB host/controller to this port, or you may damage both the HS 280/HS 210 and the other device. Orient the device's plug so it fits all the way into the HS 280/HS 210's USB connector. You may insert or remove the device at any time – there is no installation or ejection procedure.

The HS 280/HS 210 can display JPEG-format still-image files stored on the device and can also play MP3 and Windows Media® Audio (WMA) files and MPEG4 and AVI video files that are stored on the device.

Line 1 Input/Line 2 Inputs: Use these inputs to connect to an audio-only source component (such as a tape deck). Do not connect a turntable to these jacks without a phono preamp.

HDMI Output (HDMI version 1.2): If your video display is HDMI-capable, connect it to the HS 280/HS 210's HDMI output for improved video performance. Since the HDMI cable transmits both video and audio to the video display, we recommend that you disable your display's HDMI audio function to take full advantage of the HS 280/HS 210 system's superior audio performance (See page 19).

IMPORTANT: The HS 280/HS 210 is in compliance with HDCP (High-Definition Copy Protection). A video display must also be HDCP-compliant to be used with the HS 280/HS 210's HDMI output. For best results, we do not recommend HDMI connections in excess of ten feet without a repeater. If your video display has a DVI input, you may use an optional HDMI-to-DVI cable or adapter for the video connection to the display. (The DVI connection is video-only.)

Remote Control Input/Output: If the HS 280/HS 210's front-panel IR sensor is blocked, such as when it is placed inside of a cabinet, connect an external IR receiver (such as the Harman Kardon HE 1000 – not included) to the Remote Control In connector. You can then place the external IR receiver in a location where it can receive the signals from the HS 280/HS 210 remote control.

You can connect the HS 280/HS 210's Remote Control Out connector to the remote IR input of a compatible device, allowing it to be controlled through the HS 280/HS 210 (and through an external IR receiver, if connected). You can even connect several such compatible devices together in "daisy-chain" fashion.

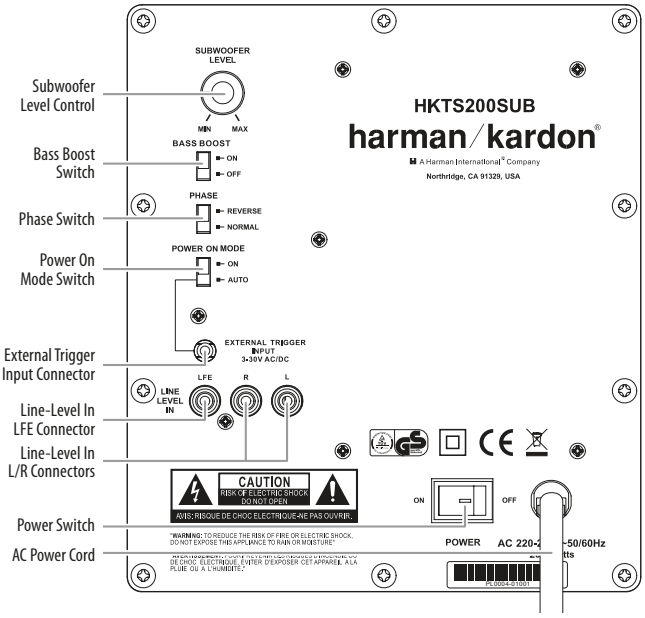
SCART Connection: Connect it to a compatible TV or set-top box using the included SCART cable. The SCART cable carries composite (CVBS) video or S-Video from the HS 280/HS 210 to a TV or set-top box (as well as a control signal for automatically controlling picture aspect ratio and other parameters). It also carries stereo audio from the TV or set-top box back to the HS 280/HS 210.

Composite-Video Output: Connect it to the composite-video input of a TV or video projector.

S-Video Output: Connect it to the S-Video input of a TV or video projector.

FM Antenna Connection: Connect the supplied FM antenna to this terminal.

Subwoofer Controls and Connections



Subwoofer Level Control: Use this control to adjust the HKTS200SUB subwoofer's volume. Turn clockwise to increase the volume; turn counterclockwise to decrease the volume.

Bass Boost Switch: Set this switch to On to enhance the subwoofer's low-frequency performance. Set this switch to Off for normal low-frequency performance.

Phase Switch: This switch determines whether the subwoofer driver's piston-like action moves in and out in phase with the satellite speakers. If the subwoofer were to play out of phase with the satellite speakers, the sound waves from the satellite speakers could cancel out the sound waves from the subwoofer, reducing bass performance and sonic impact. This phenomenon depends in part on the relative placement of all the speakers in the room.

Although in most cases the Phase Switch should be left in the Normal position, there is no absolutely correct setting for it. When the subwoofer is properly in phase with the satellite speakers, the sound will be clearer and have maximum impact. It will make percussive sounds like drums, piano and plucked strings sound more lifelike. The best way to set the Phase Switch is to listen to music that you know well and set the switch in the position that gives drums and other percussive sounds maximum impact.

Power On Mode Switch: When this switch is set in the Auto position and when the Power switch is set to On, the HKTS200SUB will automatically turn itself On whenever it receives an audio signal. It will enter the standby mode if it receives no audio signal for 20 minutes. When the Power On Mode switch is set in the On position, the subwoofer will remain on whether or not it is receiving an audio signal.

An LED on the subwoofer's top panel indicates whether the subwoofer is in the on or standby mode:

- When the LED is illuminated white, the subwoofer is turned on.
- When the LED is not illuminated, the subwoofer is in standby mode.

When the Power switch is set to Off, the LED will not be illuminated, no matter what setting the Power On Mode switch is in.

External Trigger Input Connector: Use the mini-plug of the supplied combination LFE and trigger cable to connect the External Trigger Input to the trigger output of another compatible component. Whenever the subwoofer detects a trigger signal between 3V and 30V (AC or DC), the subwoofer's amplifier will turn on. The subwoofer's amplifier will turn off after the trigger signal ceases. (This change will occur even when the Power On Mode switch is in the Auto position.)

Line-Level In LFE Connector: Use the LFE (purple) connector of the supplied combination LFE and trigger cable to connect the Line-Level In LFE connector to the dedicated subwoofer output of a receiver or preamp/processor. This input bypasses the subwoofer's internal crossover circuitry, so use it only with a subwoofer output that is low-pass filtered. (Check the receiver or preamp/processor's documentation to confirm that its subwoofer output is low-pass filtered.) If your receiver or preamp/processor does not have a dedicated subwoofer output that is low-pass filtered, use the subwoofer's Line-Level In L/R connectors instead.

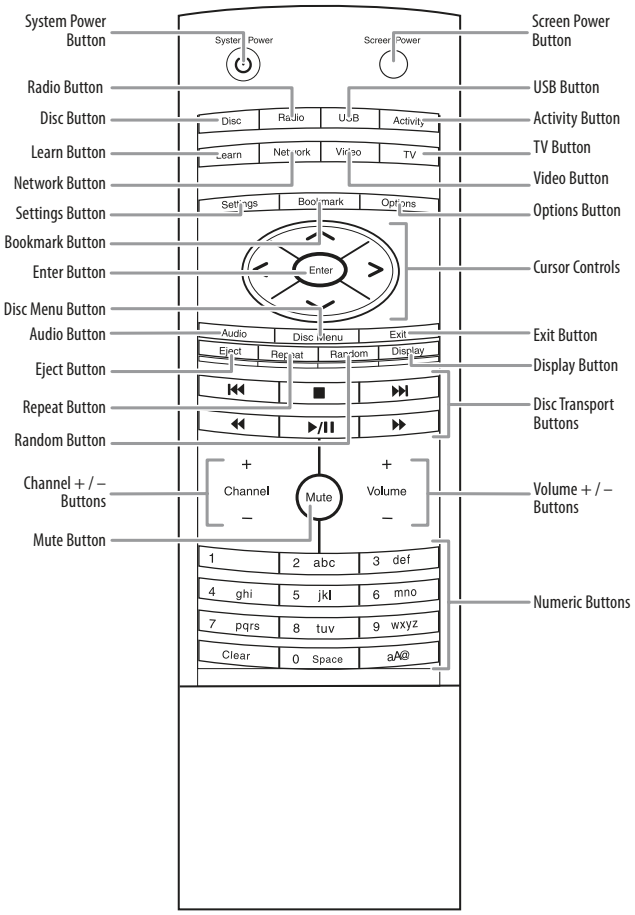
Line-Level In L/R Connectors: Use these connectors if your receiver or preamp/processor does not have digital surround-sound decoding or a low-pass-filtered subwoofer output.

- If your receiver or preamp/processor has a separate subwoofer output, use the LFE (purple) connector of the supplied combination LFE and trigger cable to connect the receiver or preamp/processor's subwoofer output to either one of the subwoofer's Line-Level In L/R connectors.
- If your receiver or preamp/processor does not have a separate subwoofer output, use two Y-adapters (not supplied). Connect one adapter's single end to the unit's preamp output for that channel. Connect one of this adapter's dual ends to the main amp input for that channel, and connect the adapter's other dual end to one of the subwoofer's Line-Level In L/R Connectors. Repeat this process with the other Y-adapter, the preamp channel, the main amp input and the subwoofer's other Line-Level In L/R connector.

Power Switch: Set this switch in the On position to turn the subwoofer on. The subwoofer will then either be on or in Standby mode, depending on the setting of the subwoofer's Power On Mode switch.

AC Power Cord: After you have made and verified all subwoofer and speaker connections described in this manual, plug the Power Cord into an active, unswitched electrical outlet (that is, an outlet not connected to a light switch) for proper operation of the subwoofer. DO NOT plug this cord into the accessory outlets found in some audio components.

Remote Control Functions



System Power Button: Switches the HS 280/HS 210 into the Standby mode.

Screen Power Button: Switches your video display on and off.

Disc Button: Selects the HS 280/HS 210's built-in DVD player as the system's active sound source and plays a disc that has been inserted into the player. Pressing this button also puts the remote control into the disc player control mode. See Using the *DVD Player*, on page 21, for details. NOTE: Pressing this button when the HS 280/HS 210 is in the Standby mode will switch it on.

Radio Button: Selects the HS 280/HS 210's built-in FM radio as the system's active sound source. Pressing this button also puts the remote control into the control mode for the radio. See Using the *FM Tuner*, on page 23, for details. NOTE: Pressing this button when the HS 280/HS 210 is in the Standby mode will switch it on.

USB Button: Selects a device connected to the front- or rear-panel USB ports as the system's active sound source. The HS 280/HS 210's on-screen menu system lets you navigate through the files stored on the device. See *Playing Files from USB Devices*, on page 24, for details. NOTE: Pressing this button when the HS 280/HS 210 is in the Standby mode will switch it on.

Activity Button: Switches the on-screen menu to the Activity menu from any other active screen or menu. See *Activity Button*, on page 21, for details. NOTE: Pressing this button when the HS 280/HS 210 is in the Standby mode will switch it on.

Learn Button: Places the remote control in the learning mode. See *Programming the Remote Control*, on page 17, for details.

Network Button: Switches to the local area network (LAN) that is connected to the HS 280/HS 210's rear-panel Network connector. See *Playing Files from Networked Devices*, on page 25, for details. NOTE: Pressing this button when the HS 280/HS 210 is in the Standby mode will switch it on.

Video Button: Puts the remote control into the video-control mode, allowing it to control a video source component with codes that you have programmed into the remote. See *Programming the Remote Control*, on page 17, for details. If you have designated one of the HS 280/HS 210's analog-audio inputs as a video-component audio input, pressing the Video button will also make that input the system's active sound source. See *Connecting Audio Sources/Line 1, Line 2 In*, on page 16, for details.

TV Button: Puts the remote control into the TV-control mode, allowing it to control your TV or video display with codes that you have programmed-into the remote. See *Programming the Remote Control*, on page 17, for details. If you have designated one of the HS 280/HS 210's analog-audio inputs as the TV-audio input, pressing the TV button will also make that input the system's active sound source. See *Connecting Audio Sources/Line 1, Line 2 In*, on page 16, for details.

Settings Button: Displays the HS 280/HS 210's Settings menu. See *Settings Menu*, on page 19, for details.

Bookmark Button: Displays the list of your stored bookmarks for easy access. See *Bookmarks*, on page 21, for details.

Options Button: Displays any available options for a menu item that is selected in the on-screen menu.

Cursor Controls: Use these controls — the up cursor, down cursor, left cursor and right cursor — to navigate through items on the on-screen menu.

Enter Button: Press it to select items highlighted on the on-screen menu.

Audio Button: Lets you select from the different listening modes that are available for the source that you have selected. Pressing the Audio button while you are playing a DVD will display the on-screen audio-mode menu.

Use the up cursor/down cursor buttons to select from these audio options:

Stereo: Standard stereo sound.

Dolby VS (Dolby Virtual Speaker) Reference Music: Dolby Virtual Speaker mode that simulates a realistic 5.1-speaker surround-sound music-listening environment from just two stereo speakers.

Dolby VS Reference Movie: Dolby Virtual Speaker mode that simulates a realistic 5.1-speaker surround-sound movie-listening environment from just two stereo speakers.

Dolby VS Wide Music: The same as the DVS Reference Music mode, but widens the front audio image for a more realistic surround-sound experience when the front speakers are located relatively close to each other.

Dolby VS Wide Movie: The same as the DVS Reference Movie mode, but widens the front audio image for a more realistic surround-sound experience when the front speakers are located relatively close to each other.

Press the remote's Exit button to turn off the on-screen audio mode menu.

Pressing the Audio button while listening to any source other than a DVD will cycle through the above modes. Each press of the Audio button will change to the next mode in line. The HS 280/HS 210 will display the modes on its front-panel Information Display.

Disc Menu Button: Displays the menu of the disc that has been inserted into the HS 280/HS 210's built-in DVD-player slot.

Exit Button: Exits the current on-screen menu and displays the previous screen.

Eject Button: Ejects the disc from the HS 280/HS 210's built-in DVD player.

NOTE: If you do not remove the ejected disc within 20 seconds, it will automatically re-load back into the DVD player for protection.

Repeat Button: When you are playing a DVD, this button cycles through the following repeat modes: Title, Chapter, Off. When you are playing a CD or listening to media stored on a USB device or accessed via the local area network, this button cycles through the following repeat modes: Track, All, Off.

Display Button: Cycles the HS 280/HS 210's front-panel Information Display between full brightness, half brightness and off.

Disc Transport Buttons:

⏮ Press this button once to skip to the beginning of the current track. Press the button twice to skip to the beginning of the previous track.

■ Press this button to stop playback at the current point.

⏭ Press this button to skip to the beginning of the next track.

◀◀ Press this button to move backward through the current disc track. For DVDs, each press cycles through at 1x, 2x, 4x, 8x, 16x and 32x normal speed in reverse. Pressing the button while a DVD is paused will make the DVD go backwards through the track in slow motion. Each press cycles through at 1x, 2x, 4x and 8x slow speed.

▶/❙❙ Press this button to play a disc loaded into the HS 280/HS 210's DVD player. When the disc is playing, press the button to pause the disc. Pressing the button while a DVD is playing will freeze-frame on the current frame.

▶▶ Press this button to move forward through the current disc track. For DVDs, each press of the button cycles through at 1x, 2x, 4x, 8x, 16x and 32x normal speed. Pressing the button while a DVD is paused will move the DVD forward through the track in slow motion. Each press of the button cycles through at 1x, 2x, 4x and 8x slow speed.

Channel +/– Buttons: When Radio is the source selected on the remote control, the Channel +/– buttons tune the HS 280/HS 210's FM radio to the next higher or lower FM station. When TV is the source selected on the remote control, the Channel +/– buttons tune your TV to the next higher or lower channel.

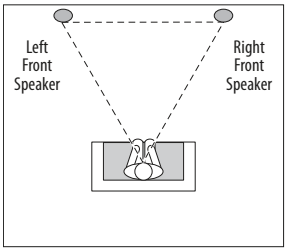
Mute Button: Press this button to mute the sound from the HS 280/HS 210's speaker outputs. Press the button again to un-mute the sound.
NOTE: The Mute button does not mute the HDMI audio outputs.

Volume +/– Buttons: Press these buttons to increase or decrease the volume of the HS 280/HS 210's speaker outputs. NOTE: The Volume +/– buttons do not change the volume of the HDMI audio outputs or the Line Outputs.

Numeric Buttons: Use for entering names for various items (bookmarks, input connections, FM stations, etc.).

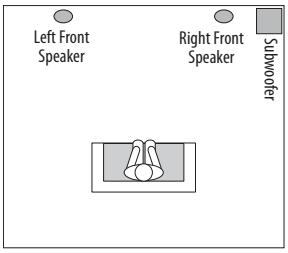
Placing the Speakers

Placing the Left and Right Satellite Speakers



Place the left and right satellite speakers at the same distance from each other as from the listening position (the place where you will be when listening to the speakers). Put them at about the same height from the floor as the listener's ears will be. You can also angle them toward the listener.

Placing the Subwoofer



Since our ears do not detect the sources of sounds at the low frequencies where the subwoofer operates, the subwoofer will perform well from just about any location in your room. However, you will probably hear the best bass reproduction when you place it in a corner along the same wall as the front left and right speakers.

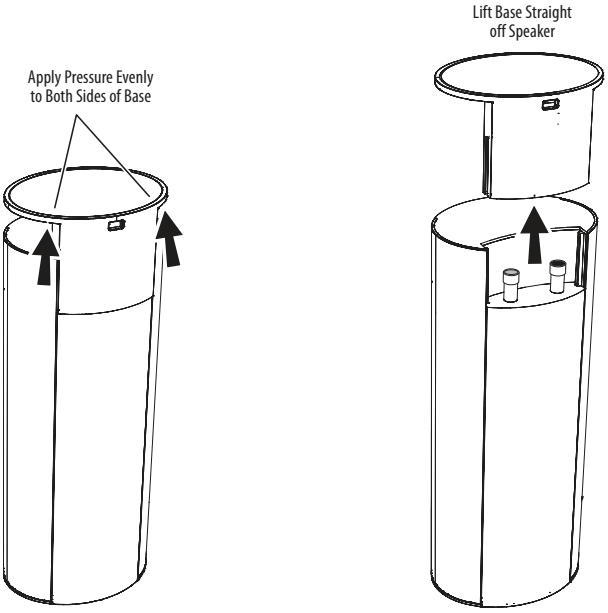
You can experiment with subwoofer placement by temporarily placing the subwoofer in the listening position and playing music with strong bass content. Move around to various locations in the room while the system is playing. Listen until you find the location where the bass performance sounds best. Place the subwoofer in that location.

Satellite Speaker Mounting Options

Shelf Placement

You can place the left and right satellite speakers on shelves using the speakers' built-in bases. You can also remove the bases if you like.

To remove a speaker's base, pull it straight off the speaker, as shown in the illustration. Apply even pressure to both sides of the base, and the base should slide off smoothly.

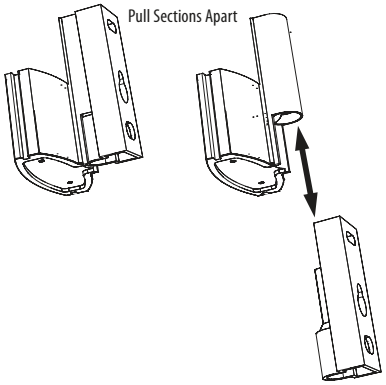


Wall-Mounting the HS 280 Satellite Speakers

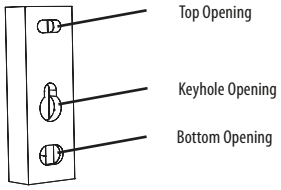
IMPORTANT: Read the *Connecting the Satellite Speakers* section, on page 14, before wall-mounting the left and right speakers using the supplied mounting hardware. You will need to insert the supplied speaker wires through the wall mounts and connect the wires to the speakers during the process of installing the mounts.

NOTE: If you are using your own speaker wire, it must be no thicker than the wire supplied with the speakers. Thicker wire will prevent the wall-mount bracket from sliding onto the speaker.

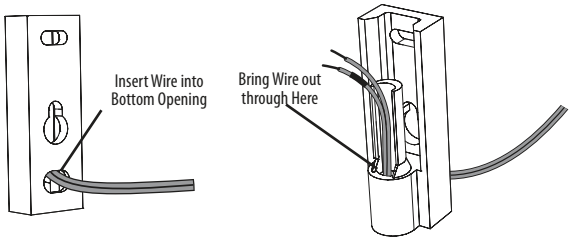
1. Decide on the location for the speaker (see *Placing the Left and Right Satellite Speakers*, on this page).
2. Remove the speaker's base as explained in *Shelf Placement*, on this page.
3. Disassemble the wall-mount bracket by sliding the two sections apart, as shown in the illustration below.



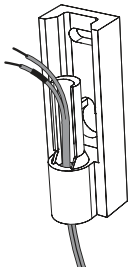
4. Attach the wall portion of the wall mount onto the wall using hardware that is appropriate for the wall's construction and materials. We recommend first anchoring the mount using its keyhole, then attaching it with another anchor through its top opening, as shown in the illustration. Note that the satellite speakers weigh 3.3 lb (1.5kg). Be sure to use hardware that can support this weight.



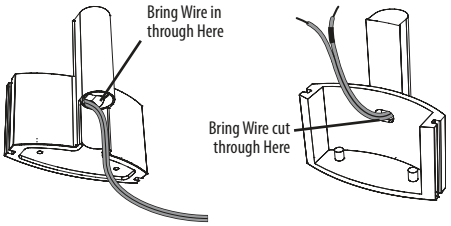
NOTE: If you're running the speaker wire through the wall, you can bring it out directly behind the bracket location and insert it through the bottom opening in the wall portion of the wall mount, as shown in the illustration below. This arrangement will hide the wire from view once the installation is complete.



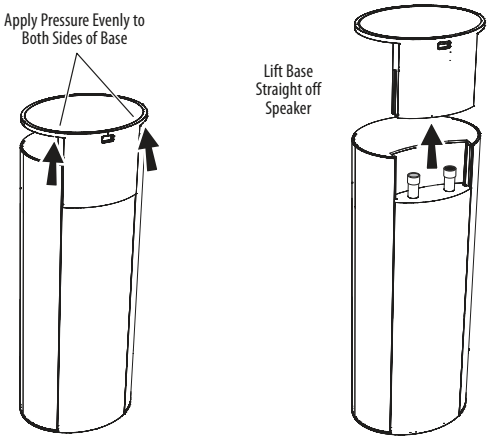
5. If you're not running the speaker wire through the wall, insert it through the wall portion of the wall-mount bracket, as shown in the illustration below.



6. Pass the speaker wire through the speaker portion of the wall mount, as shown in the illustration below.



7. If you have not already removed the speaker's base, do so by pulling it straight off the speaker, as shown in the illustration below. Apply even pressure to both sides of the base, and it should slide off smoothly.



CAUTION: Before making speaker connections, ensure that the receiver is turned off and the receiver's AC cord is unplugged from the receiver and the AC outlet.

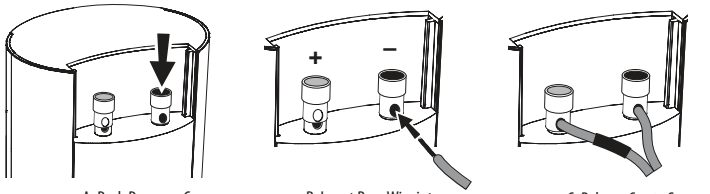
8. Connect the speaker wire to the speaker terminals, as shown in the illustration below:

   a) Press down on the top of the terminal to open the connection hole.

   b) Insert the wire's bare end all the way into the hole.

   c) Release the terminal to secure the wire.

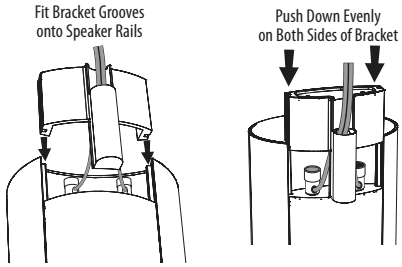
Insert the conductor with the colored band into the speaker's *red* (+) terminal. Insert the other conductor into the speaker's *black* (–) terminal.



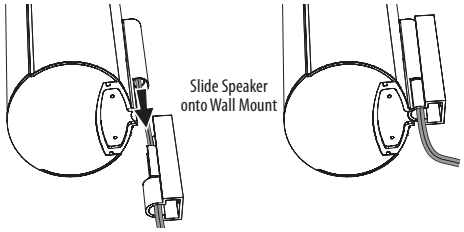
IMPORTANT: Make sure the (+) and (–) bare wires do not touch each other or the other terminal. Touching wires can cause a short circuit that can damage the receiver.

9. Slide the speaker portion of the wall mount onto the speaker, as shown in the illustration below. Fit the grooves of the mount onto the rails in the speaker. Apply even pressure on both sides of the mount, and it should slide straight onto the speaker.

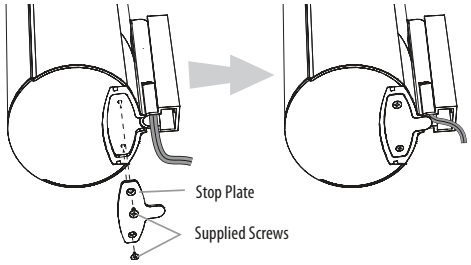
   - Push the mount all the way onto the speaker until it snaps into place.
   - Pull any slack speaker wire back through the mount as you slide the mount onto the speaker.



10. Slide the speaker onto the mount's wall section, as shown in the illustration below. Pull any slack speaker wire back through the mount's wall section.

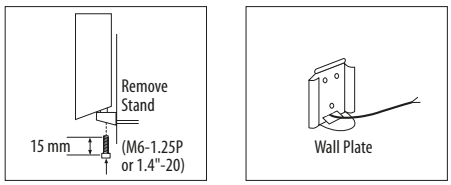


11. Fit the metal stop plate into the recess on the bottom of the wall mount with the pad facing the mount. Fasten the stop plate to the mount using two of the supplied screws. The stop plate will prevent the speaker from detaching from the bracket and will help hold the speaker in position as you rotate it on the mount.



Wall-Mounting the HS 210 Satellite Speakers

Unscrew the bolt that attaches the black shelf stand to the bottom of the speaker. Store the stand and bolt in a safe place in case you need them for a future installation.

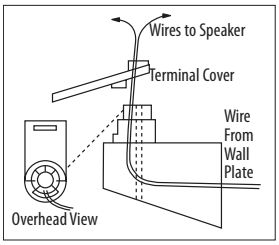


Mount the wall-bracket attachment plate on the wall.

If possible, position the speakers so that the mounting screws (not included; use size #8) may be installed directly into a wooden wall stud. If that is not possible, use optional wall anchors that are rated to support at least twenty-five pounds.

The customer is responsible for proper selection and use of mounting hardware, available through hardware stores, to wall-mount the speakers properly and safely.

For the speaker-connection instructions on pages 6 through 9, thread the appropriate speaker cable through the opening in the bottom of the attachment plate and then through the back of the bracket, as shown in the diagram.

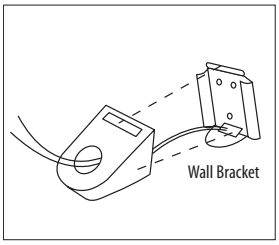


The bracket has two openings on top: a round screw hole and an arc-shaped opening in front of it. Thread the speaker cable through the arc-shaped opening, not the screw hole.

Attach the bracket to the wall plate by inserting the tab at the top of the attachment plate into the slot on top of the bracket and snapping the bracket onto the attachment plate.

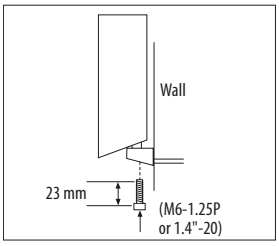
Thread the cable through the round opening in the terminal cover. Insert the speaker wires into the terminals on the underside of the speaker, remembering to observe the correct polarity (see "*Speaker Connections*").

Place the terminal cover over the opening on the underside of the speaker so that it fits flush against the speaker and covers the terminals, with its round opening exposing the threaded insert. The bracket fits through the round opening in the terminal cover.



Insert the supplied bracket bolt up through the bottom of the bracket and terminal cover. Screw it into the threaded insert on the underside of the speaker. The bolt should be snug, but not so tight as to prevent the bracket from pivoting.

The wall-mounted speaker may be pivoted from side to side; however, the bracket is not designed to tilt up or down, and attempting to tilt it will damage the bracket and possibly the wall. Your warranty will not cover the damage.



Connections

CAUTION: Before connecting anything to the HS 280/HS 210, ensure that the HS 280/HS 210 receiver is turned Off and the receiver's AC cord is unplugged from the receiver and the AC outlet.

Connecting the Satellite Speakers

Speakers and receivers/amplifiers have corresponding (+) and (–) connection terminals.

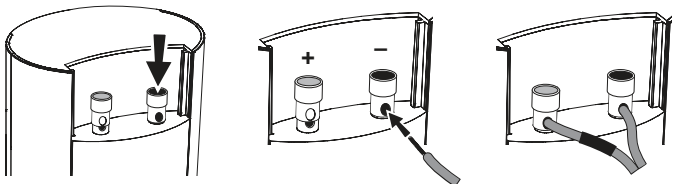
- Your system's SAT TS60 left and right speakers use *red* to denote the (+) terminal and *black* for the (–) terminal.
- The HS 280/HS 210 receiver uses *white* to denote the left channel (+) terminal and *red* for the right channel (+) terminal.
- *Black* is used to denote the (–) terminal of both channels.

The speaker wires included with your system have colored bands at both ends of the (+) conductor; the colors correspond to the receiver's (+) terminal colors. The subwoofer cable has *purple* connectors that correspond to the color of the receiver's subwoofer output and the color of the HKTS200SUB subwoofer's LFE jack. This system helps you connect each speaker to the correct receiver or amplifier terminals. In addition to the colored bands at each end, each speaker wire's (+) terminal has ribs molded into its insulation to help you identify it.

It is very important to connect each speaker identically: (+) on the speaker to (+) on the receiver or amplifier, and (–) on the speaker to (–) on the receiver or amplifier. Miswiring one or more speakers results in thin sound, weak bass and a poor stereo image.

To connect the speaker wire to the terminals on the satellite speakers:

1. Press down on the top of the terminal to open the connection hole.
2. Insert the wire's bare end all the way into the hole. Insert the conductor with the colored band into the speaker's *red* (+) terminal, and insert the other conductor into the speaker's *black* (–) terminal.
3. Release the terminal to secure the wire to the terminals.

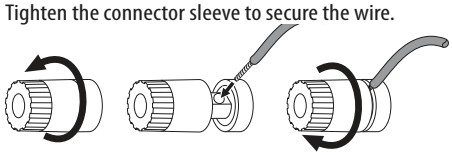


A. Push Down on Cap to Open Hole
B. Insert Base Wire into Open Hole
C. Release Cap to Secure Wire

IMPORTANT: Make sure the (+) and (–) bare wires do not touch each other or the other terminal. Touching wires can cause a short circuit that can damage the receiver.

To connect the speaker wire to the terminals on the receiver:

1. Unscrew the connector sleeve to expose the hole in the connector post. CAUTION: Take care not to unscrew the sleeve completely off the post.
2. Insert the wire's bare end through the hole in the post. Insert the conductor with the red colored band into the receiver's red (+) terminal. Insert the conductor with the white colored band into the receiver's white (+) terminal. Insert the unmarked conductors into the receiver's black (–) terminals.
3. Tighten the connector sleeve to secure the wire.

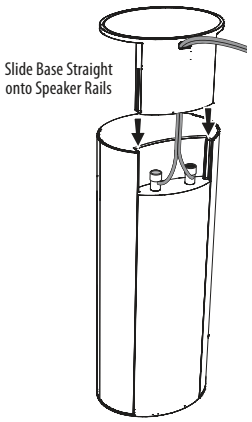


A. Unscrew Cap
B. Insert Bare Wire
C. Tighten Cap

IMPORTANT: Make sure the (+) and (–) bare wires do not touch each other or the other terminal. Touching wires can cause a short circuit that can damage the receiver.

Connect the left and right speakers with supplied bases:

1. Remove the speaker's base (see Shelf Placement, on page 12).
2. Pass the speaker wire through the opening in the speaker base.
3. Connect the speaker wire as described above.
4. Reattach the speaker's base as shown in the illustration.



5.

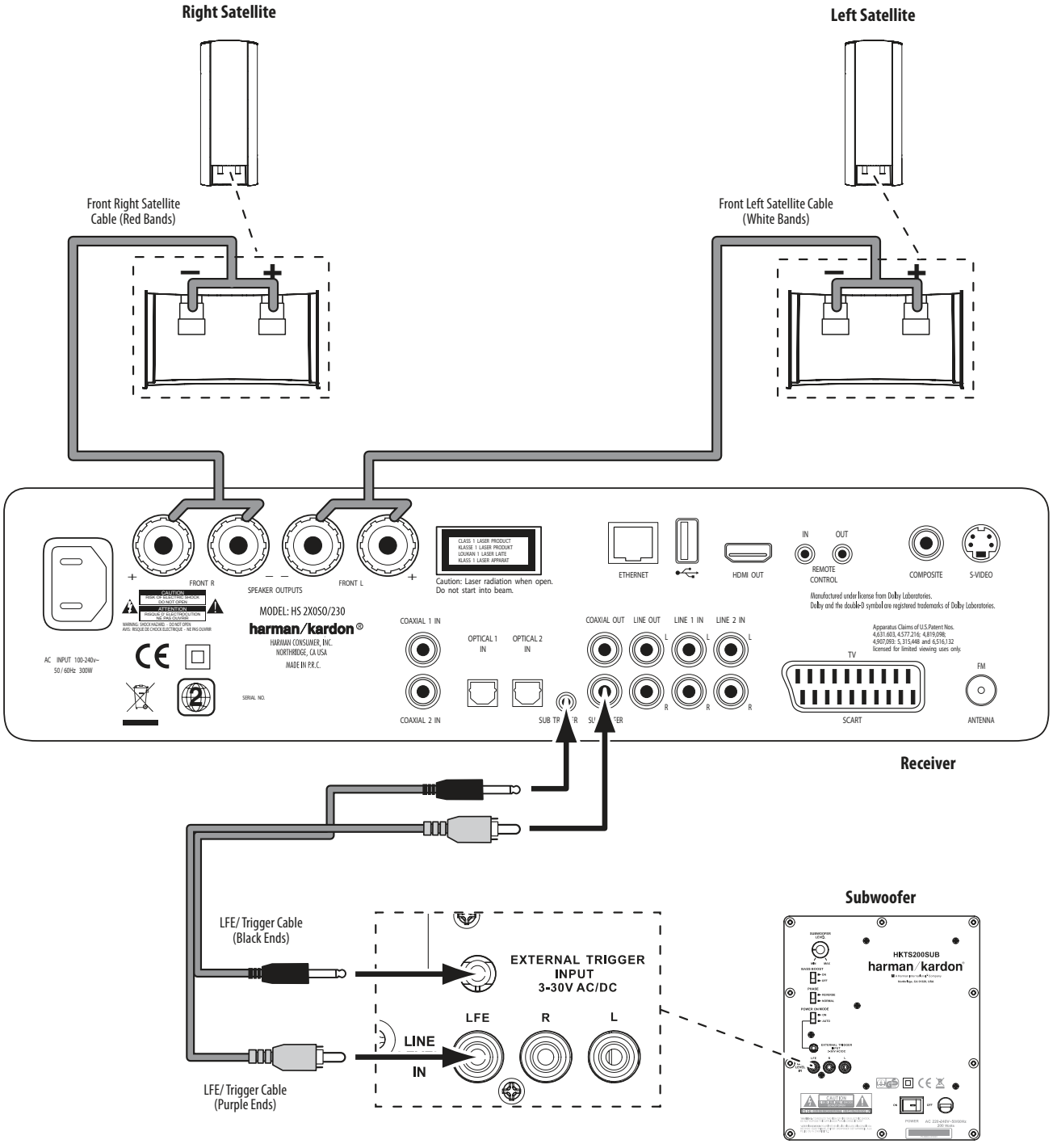
To connect satellite speakers mounted on the supplied brackets:

Follow the instructions in *Wall-Mounting the Satellite Speakers*, on page 12.

Connecting the Subwoofer

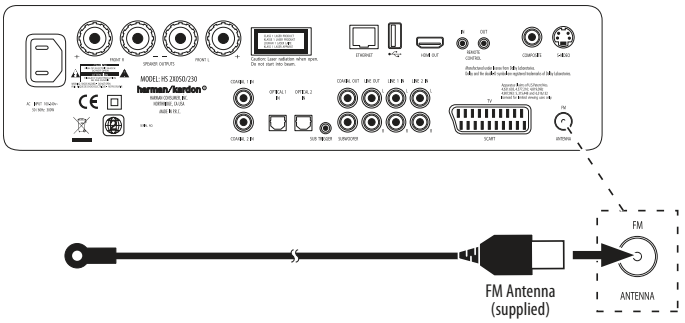
Use the LFE (purple) connectors of the supplied combination LFE and trigger cable to connect the HKTS200SUB subwoofer's Line-Level LFE In connector to the HS 280/ HS 210 receiver's Subwoofer Output. Use the trigger (black) connectors of the supplied combination LFE and trigger cable to connect the subwoofer's External Trigger Input Connector to the HS 280/HS 210 receiver's Sub Trigger Output.

IMPORTANT: Do not plug the subwoofer's AC power cord into an AC outlet at this time.



Connecting the FM Antenna

Connect the supplied antenna to the FM Antenna Connection, as shown in the illustration. Fully extend the antenna wire and move it to different positions until you get the best reception of your favorite stations.



To improve the quality of reception further, you can instead use an inside powered antenna, an outdoor rooftop FM antenna or an FM connection from a cable system. Refer to the documentation included with the antenna for installation and connection instructions.

NOTE: If the antenna or FM connection uses 300-ohm (300Ω) twin-lead cable, use a 300Ω-to-75Ω adapter to make the connection to the HS 280/HS 210's FM Antenna Connection.

Connecting a TV or Video Display

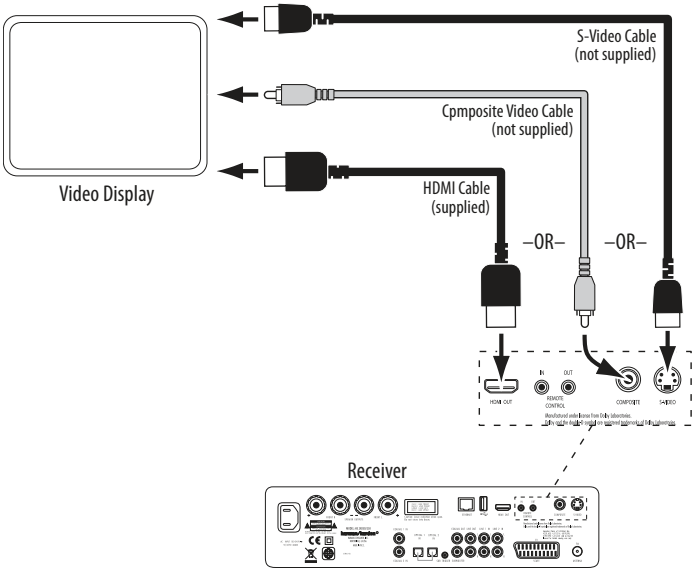
The HS 280/HS 210 can connect to a TV/video display using HDMI, S-Video or composite-video connections. If your TV/video display has an HDMI connection, we recommend using it, since it will deliver better video quality than the other connection types.

HDMI: Use the supplied HDMI cable to connect the HS 280/HS 210's HDMI output to your TV/video display's HDMI input. The HS 280/HS 210 uses HDMI version 1.2.

NOTE: The HDMI connection will deliver both video and audio to your TV or video display. We suggest disabling your TV or video display's audio system to take full advantage of the HS 280/HS 210 system's superior audio reproduction.

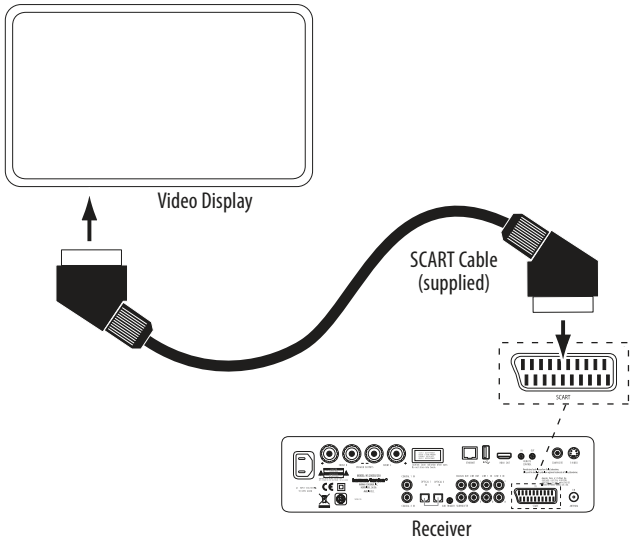
S-Video and Composite Video: If your TV/video display does not have an HDMI connection, connect it to the HS 280/HS 210 by either the S-Video or composite-video connection.

NOTE: S-Video and composite-video cables are not included.

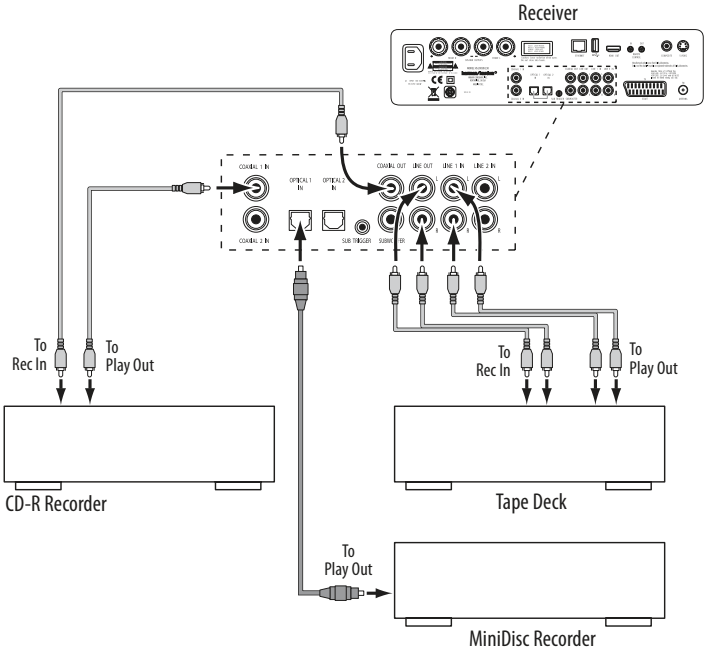


Connecting the SCART Cable

If your TV/video display or set-top box has a SCART connection, you can attach it to the HS 280/HS 210's SCART connection using the supplied SCART cable. The SCART cable carries composite video (CVBS), S-Video and a control signal for automatically controlling picture aspect ratio and other parameters from the HS 280/HS 210 to the TV or set-top box. The cable also carries stereo audio from the TV or set-top box back to the HS 280/HS 210.



Connecting Audio Sources



Line 1/Line 2 In: If you have an audio-only analog source component such as a tape deck or MiniDisc recorder, connect its left and right analog outputs to the Line 1 In or Line 2 In jacks as shown in the illustration.

NOTE: To hear a TV show through your HS 280/HS 210 system, you need to connect the audio output of your TV to the HS 280/HS 210 receiver. If you are using an HDMI, S-Video or composite-video connection between the HS 280/HS 210 and your TV/video display, you will need to connect the TV's stereo audio output to the HS 280/HS 210's Line 1 In or Line 2 In jacks. If you are using the supplied SCART cable to connect the HS 280/HS 210 to your TV, you don't need to connect any additional wires – the SCART cable transmits a stereo audio signal from the TV to the HS 280/HS 210 receiver.

Coaxial 1/Coaxial 2 In and Optical 1/Optical 2 In: If you have an audio-only digital source component (such as a CD changer or video game), you can connect it to one of these inputs, as shown in the illustration under *Connecting Audio Sources*, on page 16. When using the Optical 1 and Optical 2 digital connections, gently push the cable connector through the panel connector's built-in shutter until it is firmly seated in the connector.

NOTE: Use only one type of digital connection for each source component.

Connecting an Audio Recorder

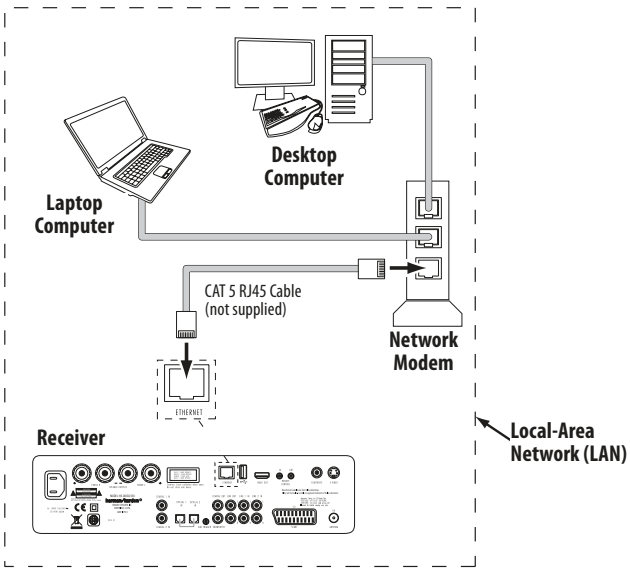
Line Out: If you have an analog recorder such as a cassette deck, connect its record inputs to the HS 280/HS 210's Line Out jacks. NOTE: You should connect the recorder's analog outputs to the HS 280/HS 210's Line 1 In or Line 2 In jacks.

Coaxial Out: If you have a digital recorder such as a CD-R or MiniDisc, connect its coaxial input to the HS 280/HS 210's Coaxial Out jack.

Connecting to a Local Area Network (LAN)

Use a CAT 5 RJ45 network cable (not supplied) to connect the HS 280/HS 210's Ethernet port directly to a network router, a network switch or an Ethernet network wall jack.

NOTE: For the HS 280/HS 210 to interface with a networked computer, that computer must be running UPnP (Universal Plug and Play)-compliant media software such as Windows Media Player, MediaLink or EyeConnect™.



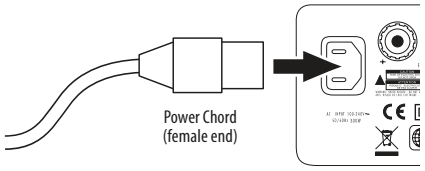
IMPORTANT: The HS 280/HS 210's Ethernet connection will not support a proxy network.

Connecting the AC Power

The HS 280/HS 210 receiver comes with a detachable AC power cord. This type of cord makes it easier for you to install and connect all other system wiring to the receiver's rear panel. The HKTS200SUB subwoofer has a non-detachable power cord. Plug the subwoofer's power cord into a working, unswitched AC outlet.

NOTES:

- The power requirement for the HS 280/HS 210 receiver is 100–240V AC ~ 50/60Hz, 300W. The power requirement for the HKTS200SUB subwoofer is 220–240V AC ~ 50/60Hz, 200W.
- Connecting to a power source other than the ones listed above may damage the receiver or subwoofer, or cause abnormal operation.
- Before connecting the AC power cords to a wall outlet, confirm that all of the speaker connections, video connections and audio-component connections have been made correctly.
- Connect the female end of the receiver's detachable power cord to the receiver's AC Power Input connector. Plug the other end into a working, unswitched AC outlet.

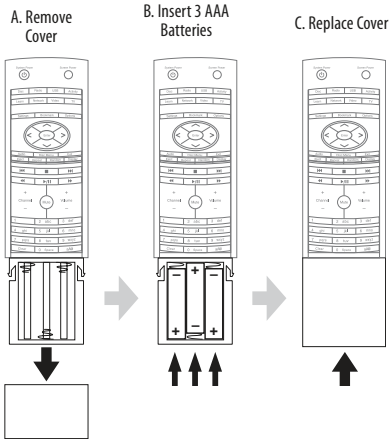


- The receiver's Power Indicator will turn red, indicating that the receiver is in the standby mode.
- The subwoofer's LED will not illuminate until it receives a turn-on signal. See *Subwoofer Controls and Connections*, on page 9, for details.

Preparing the Remote Control

Installing the Batteries

The HS 280/HS 210's system remote control uses three AAA batteries (supplied). Insert the batteries as shown in the illustration, making sure to observe the correct polarity.



Using the Remote Control

When using the remote, remember to aim it toward the HS 280/HS 210's front panel. Make sure that no objects, such as furniture, block the remote's view of the receiver. Bright lights, fluorescent lights, and plasma-video displays may interfere with the function of the remote.

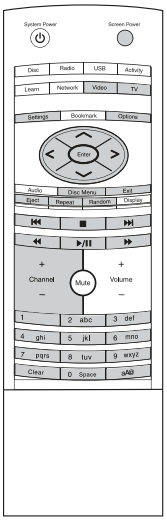
- The remote has a range of about 20 feet (6.1m), depending on the lighting conditions.
- You can use the remote at an angle of up to 30° to either side of the HS 280/HS 210.
- If the remote seems to operate intermittently, or if pressing a button on the remote does not cause one of the source buttons to illuminate, make sure that the batteries are inserted correctly, or replace all three batteries with new ones.

Programming the Remote Control

You can also program the remote so it will control two additional components – typically your TV and a video source such as a satellite or cable receiver – in addition to controlling the HS 280/HS 210 receiver.

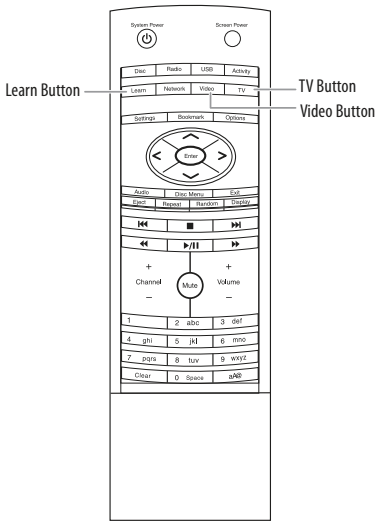
To control the TV and video component, you can teach codes from the TV and video-component remotes onto the HS 280/HS 210 remote buttons shown shaded in the following illustration:

= Learning-Capable



Teaching Codes to the Remote Control

1. Place the HS 280/HS 210 remote head to head with the remote from which you want it to learn codes. Put them about 1 inch (2.5cm) apart, with their IR transmitter windows facing each other.
2. Press and hold either the TV or Video button on the HS 280/HS 210 remote.



3. While pressing the TV or Video button, press and hold the Learn button until its LED begins flashing *amber*. (The TV or Video button will not flash but will remain steadily illuminated.) The flashing indicates that the remote is in the learning mode.
4. Press the HS 280/HS 210 remote button to which you want to teach the command. The Learn button's LED will then illuminate continuously. The learning mode will remain active for 20 seconds after the button is pushed.

NOTE: If you accidentally press a button that is not learning-capable, the Learn button's LED will continue to flash amber and the remote will remain in the learning mode.

5. Press the button on the other remote that you want to "teach" the HS 280/HS 210 remote. When the HS 280/HS 210 remote has received and stored the other remote's IR code, the Learn button's LED will change to *green*, and the HS 280/HS 210 remote will remain in the learning mode, ready to learn another code.

NOTE: If the HS 280/HS 210 remote can't read the IR code from the other remote, the Learn button's LED will flash red rapidly three times, and the remote will remain in the learning mode. Resume programming from Step 4. If the HS 280/HS 210's remote control does not receive an IR code within five seconds, the Learn button's LED will flash red rapidly three times, and the remote will remain in the learning mode. Resume programming from Step 4.

6. Repeat Step 3 and Step 4 for each command you want to teach the HS 280/HS 210 remote. You can switch between programming TV and video component codes by pressing the TV or Video button before resuming Step 4. NOTE: If the Learn button's LED goes out at any time, you will need to repeat Step 2 through Step 6.

Using the Remote Control After it is Programmed

Pressing the remote's TV button will put the remote into the TV-control mode. It will control the TV via the codes you have programmed into it. Pressing the remote's Video button will put the remote into the video-control mode, and it will control the video component via the codes you have programmed into it.

To switch the remote control back to the HS 280/HS 210 receiver-control mode from the TV-control or video-control mode, press any of these buttons: Disc, Radio, USB, Network, Activity or Bookmark.

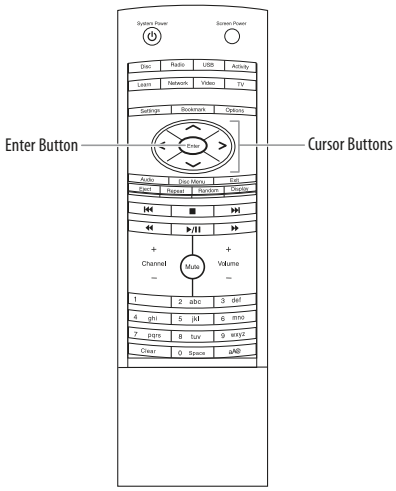
Setting up the Receiver

NOTE: The on-screen menus shown in this manual are for illustrative purposes and may differ slightly from the actual displays.

Using the On-Screen Menu System

When you turn your HS 280/HS 210 receiver on for the first time, the on-screen menu will display the Activity menu. This menu acts as the HS 280/HS 210's "home" screen. All of the HS 280/HS 210's on-screen functions originate in the Activity menu.

To operate your HS 280/HS 210 system, you will use the remote control to navigate through all of the on-screen menus and make selections from them.

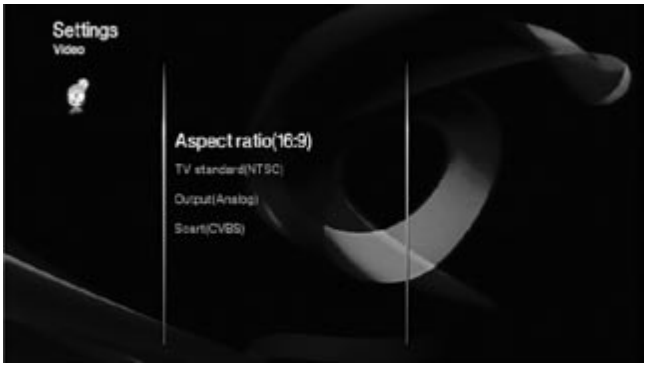


- Use the up cursor/down cursor buttons to navigate through the menu list. When an item is highlighted, its icon will turn bright and its name will become larger.
- To select a highlighted item, press the Enter button. The screen will change depending on your selection.
- To display choices for the current screen (if available), press the right cursor button.
- To return to the previous screen, press the left cursor button.

Settings Menu

Before using the HS 280/HS 210, you will need to set the receiver's various video, audio and other functions. Scroll down the Activity menu until Settings is highlighted, then select it. The Settings menu will appear. You will use the various Settings menu items to configure your HS 280/HS 210 to work as you want it to with your TV and other components.

Video Settings



Aspect ratio: Select the aspect ratio of your TV or video display (16:9 or 4:3).

TV standard: Select your TV or video display's TV standard (automatic or PAL). If you have an NTSC or multi-standard TV, use the Automatic setting. NOTE: If you make an incorrect setting in this menu, the signal to your TV will be temporarily lost, but you can change to the correct setting by using the HS 280/HS 210's front-panel Information Display.

Output: Select which video connection (HDMI or analog) you are using between the HS 280/HS 210 and your TV. NOTE: The HS 280/HS 210 does not output both HDMI and analog video simultaneously.

Resolution (HDMI only): Select the highest resolution your TV can handle (480p (NTSC), 576p (PAL), 720p, 1080i or 1080p). NOTE: This setting is available only if you selected HDMI as the output type.

SCART (analog only): Select the type of video output that your TV will receive via the SCART cable (S-Video or composite – CVBS – video). NOTE: This setting is available only if you selected Analog as the output type.

Audio Settings

Bass, Treble: Increases or decreases the level of bass (low frequencies) or treble (high frequencies). You can select from −10dB to +10dB in 1dB increments.

Subwoofer: Increases or decreases the subwoofer volume. You can select from −10dB to +10dB in 1dB increments.

Dynamic range: This setting brings the loud and quiet parts of a movie or music closer to the same volume. This setting lets you turn up the volume so the quiet parts are audible but the loud parts won't disturb others. NOTE: This feature works only with Dolby Digital programs that have been specially encoded. Three settings are available:

- Min: Does not change the original playback. You should use it when the volume setting in the listening room may be as loud as you desire.
- Half: Applies a moderate amount of compression so that louder passages are a little bit quieter.
- Max: Applies more compression so that louder passages are much quieter.

Delay: This setting indicates the amount of delay of the audio output relative to the video output, which eliminates the "out-of-sync" quality that sometimes occurs when the video source component or the video display processes a video signal. The default setting of 90ms (90 milliseconds) should be correct for most programs. However, if you wish to improve synchronization for a particular program, you can change the setting to anywhere between 0ms (no delay) and 150ms, in 10ms increments.

HDMI Audio to TV: This setting turns the HDMI audio output to your TV on and off. We recommend turning this function off, so you can take full advantage of the superior audio capability of your HS 280/HS 210 system's receiver and speakers.

TV audio input: Set this function to the input to which you have connected your TV's audio output. When you press the remote's TV button, TV will become the active audio input and you can use the remote to control your TV. See *Connecting Audio Sources, Line 1/Line 2* In, on page 16.

NOTE: If you've connected the TV to the HS 280/HS 210 using the SCART cable, set this function to SCART. Whenever the TV is turned on, it will send a signal to the HS 280/HS 210, which will then automatically switch to the SCART input.

Video audio input: Set this function to the input to which you have connected the audio output of the video component that you've programmed the remote to control. (NOTE: If you've connected the video component using the SCART cable, set this function to SCART.) When you press the remote's Video button, video will become the active audio input, and you can use the remote to control the video component. See *Connecting Audio Sources, Line 1/Line 2 In*, on page 16.

Network Settings

IP address: This is the HS 280/HS 210's unique address on the network. The network automatically assigns the HS 280/HS 210 an IP address, so unless your network administrator or Internet Service Provider (ISP) instructs you to use a static IP address, you should leave this function set to Automatic.

If you are required to use a static IP address, select IP address, then select Set, and use the numeric keys to enter the IP address and subnet mask address numbers that you are given on the screen that appears.Press Enter when you're finished.

Gateway: The gateway address connects your local area network to the Internet. The ISP and/or network administrator automatically assigns this address, so unless your ISP or network administrator instructs you to use a static gateway address, you should leave this function set to Automatic.

If you are required to use a static gateway address, then select Gateway, select Set, and use the numeric keys to enter the gateway address numbers that you are given on the screen that appears. Press Enter when you're finished.

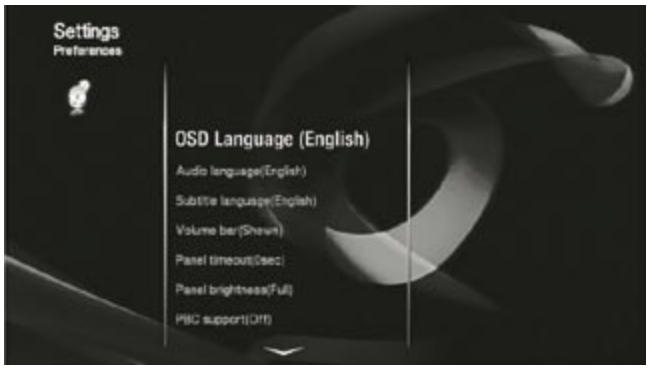
DNS: Is the network's domain name server. The ISP and/or network administrator automatically assigns the DNS, so unless your ISP or network administrator instructs you to use a static DNS, you should leave this function set to Automatic.

If you are required to use a static DNS, then select DNS, select Set, and use the numeric keys to enter the DNS numbers that you are given on the screen that appears. Press Enter when you're finished.

MAC: This is the unique identifier address that the manufacturer assigned to the HS 280/HS 210. The user cannot modify it.

Wired: If your ISP or network administrator instructs you to use a static IP address, gateway or DNS for the HS 280/HS 210, you must set this function to Enable after entering the static numbers in the appropriate screens. The Wired (Disabled) listing will change to Wired (Connected).

Preferences

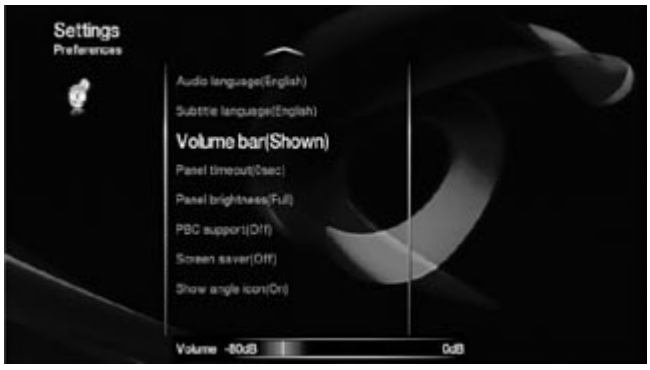


OSD Language: Sets the language for the HS 280/HS 210's on-screen display (OSD). The default language is English, but you can change it to French, German, Italian, Russian or Spanish.

Audio Language and Subtitle Language: Sets the default audio language and subtitle language for DVDs played on the HS 280/HS 210's built-in DVD player. The default language is English, but you can change it to French, German, Italian, Russian or Spanish. To change to a language not listed on this menu, select Other and use the 10-key screen to enter the language's 3-character code from the code list on page 28.

NOTE: If the selected language is not available on the particular DVD being played, press the remote's Disc Menu button and change the language using the disc's menu.

Volume Bar: The HS 280/HS 210 can display a volume bar on the TV screen whenever you change its volume level. Select Shown to display the volume bar (see illustration below).



Panel Timeout: When the panel brightness is set to Off (see below), you can set the length of time that the HS 280/HS 210's Information Display remains lit after each command. (Some people find the display distracting while watching a movie.) You can have the Information Display remain on for 0, 5, 10 or 15 seconds.

Panel Brightness: You can set the brightness of the HS 280/HS 210's Information Display.

PBC Support: Activates PBC (Play-Back Control) for VCD discs.

Screen Saver: Activates the HS 280/HS 210's screen saver to prevent image burn-in on a video display. If you connect the HS 280/HS 210 to a plasma display or CRT-based TV or video projector, we recommend that you activate the screen saver.

Show Angle Icon: Determines if the Angle icon will appear on the screen when the currently-playing DVD has different picture angles available.

About: Contains information about the versions of software installed in your HS 280/HS 210.

Activity Menu

The Activity menu is the HS 280/HS 210's "home" menu screen, listing its major functions: Bookmarks, Play Disc, Radio, Audio inputs, USB, Network and Settings.

No matter what on-screen menu is active, pressing the remote control's Activity button will bring you back to the Activity menu.

Bookmarks

The HS 280/HS 210's Bookmark function lets you store the locations of frequently-used media so you can quickly recall them later with a minimum of button-pushing. This function can be especially useful if you are connected to a network that has media located on several devices. Items that you can bookmark include:

- MP3, JPEG, AVI, or MP4 media on a networked device or a docked USB device
- Preset FM radio stations
- Audio input connections

To bookmark an item, right-click on it to display its options, and select Add to Bookmark.

To select a bookmarked item

- Press the bookmark button

– or –

- Press the Activity button and select Bookmark.

A list of your bookmarked items will appear on screen. Scroll to the item you want and press the Enter button.

NOTE: If you select a bookmarked item from a source that is not currently connected to the HS 280/HS 210, the OSD will display an "invalid" icon near the upper-right corner.

Using the DVD Player

Disc handling precautions

- To keep the disc clean, handle the disc by its edge. Do not touch the surface.

- Do not stick paper or tape on the disc. If there is glue (or a similar substance) on the disc, remove the substance completely before using the disc.
- Do not expose the disc to direct sunlight or sources such as hot- air ducts.
- Do not leave it in a car parked in direct sunlight, as there can be a considerable rise in temperature inside the car.
- After playing the disc, store it in its case.
- Do not write on the label side with a ball-point pen or any other sharp writing utensil.
- Be careful not to drop or bend the disc.

Disc cleaning precautions

- Before playing, clean the disc with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents such as benzene, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.

Regional coding

The HS 280/HS 210 will play only discs with coding from Region 2 or discs with no region coding (Region 0). It will not play discs with any other region coding.

Copyright

Audio-visual material may consist of copyrighted works that must not be recorded without the permission of the owner of the copyright. Please refer to relevant laws covering copyright protection.

Copy protection

The HS 280/HS 210 is in compliance with HDCP (High-Definition Copy Protection). A video display connected via HDMI must also be HDCP-compliant.

The HS 280/HS 210's DVD player supports Macrovision® copy protection. On DVDs that include a copy-protection code, if the contents of the DVD are copied using a VCR, the copy-protection code prevents the videotape copy from playing normally.

Supported disc formats

The HS 280/HS 210 can play the following disc formats in 5" (12 cm) and 3" (8 cm) size: DVD, DVD-R, DVD-RW, DVD+R, DVD+RW, CD, CD-R, CD-RW, VCD, S-VCD, MP3, and WMA (v7-v8). It can also play discs with JPEG picture files.

NOTE: Some discs may include features that are not compatible with the HS 280/ HS 210's DVD player. Similarly, although DVDs are capable of a wide range of features, not all discs include every feature that the DVD system can offer. For example, the DVD player is compatible with multi-angle discs, but some discs are not specially encoded for multiple-angle play. To make certain that a specific feature or soundtrack option is available on a disc, please check the options noted on the disc's jacket.

Playback capability for CD-R, CD-RW, WMA, JPEG, MP3, VCD/SVCD, DVD-R, DVD+R, DVD-RW and DVD+RW discs may vary due to variations in the quality of the disc and the recorder used to create the disc.

Loading a disc

Hold the disc horizontally when loading it. Insert it gently into the Disc Slot. The disc-loading mechanism will take the disc and slide it into the unit.

- Do not load more than one disc into the disc slot.
- Do not load the disc upside down.

You can load a disc while watching or listening to another source (such as the radio) without interruption. The disc will not automatically play.

When there is no disc is loaded in the HS 280/HS 210, the Activity menu's Play Disc listing will have a prohibition icon.

Play Disc

When a disc is loaded in the HS 280/HS 210, the Activity menu's Play Disc listing will not have a prohibition icon.

Play Disc

Playing discs

Once you've loaded a disc, you can play it by:

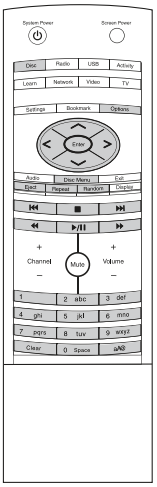
- Pressing the Disc button on the remote control

– or –

- Pressing the Activity button on the remote and selecting Play Disc.

Use these buttons on the remote to control playback functions:

= Disc Player Operation



Disc button: Selects the HS 280/HS 210's DVD player as the active source and plays the inserted disc. NOTE: Pressing this button when the HS 280/HS 210 is in the Standby mode will switch it on.

Options button: Lets you set the following options when playing a DVD:

- Audio: Lets you select between the different audio tracks that are available on the disc.
- Subtitle: Lets you activate subtitles and select the subtitle language.
- Status: Cycles the status display (see illustration below) between the following modes: Off, On (remains on for five seconds) and Sticky (remains on until you turn it off).

- Random: Turns Random Play on and off.
- Repeat: Cycles the player between the following Repeat modes: Off, All, Title, Chapter.
- A–B: Turns A – B Repeat on and off, and lets you set the A and B points on the disc.
- Time Mode: Lets you advance to any point in time on the disc. Use the keypad to enter the time, or use the left and right cursor arrows (see *Cursor Controls*, page 10) to select between hours, minutes and seconds, and use the up and down cursor arrows to set the time. When you finish entering the time, press the Enter button, and the HS 280/HS 210 will skip to that point on the disc.

- Angle: Lets you select between the different camera angles that are available on the disc.

NOTE: Options are disc-dependent. Some options may not be available on all discs.

Cursor controls: Use them to navigate through items on the on-screen menus.

Enter button: Press it to select items highlighted on the on-screen menus.

Disc Menu button: Displays the menu of a DVD (or the track list of a CD) that is inserted into the HS 280/HS 210.

Eject button: Ejects the disc. NOTE: If you do not remove the ejected disc within 20 seconds, it will automatically re-load back into the DVD player for protection.

Repeat button: When the HS 280/HS 210 is playing a DVD, this button cycles through the following repeat modes: All, Title, Chapter, Off. When playing a CD or listening to media stored on a USB device or accessed via the network, this button cycles through the following repeat modes:
Repeat-1, All, Off.

Random button: When the HS 280/HS 210 is playing a disc, this button will play all the tracks on the disc in random order.

⏮	Press once to skip to the beginning of the current track. Press twice to skip to the beginning of the previous track. The ⏮ icon will temporarily appear in the upper-right part of the screen.
■	Press to stop playback at the current point.
⏭	Press to skip to the beginning of the next track.
◀◀	Press to move backward through the current disc track. For DVDs, each press cycles through at 1x, 2x, 4x, 8x, 16x and 32x normal speed in reverse. Pressing the button while a DVD is paused will move backward through the track in slow motion. Each press cycles through at 1x, 2x, 4x and 8x slow speed.
▶/❚❚	Press to play the currently loaded disc. When playing, press to pause the disc. Pressing the button while a DVD is playing will freeze-frame on the current frame.
▶▶	Press to move forward through the current disc track. For DVDs, each press cycles through at 1x, 2x, 4x, 8x, 16x and 32x normal speed. Pressing the button while a DVD is paused will go forward through the track in slow motion. Each press cycles through at 1x, 2x, 4x and 8x slow speed.

Numeric Buttons: Use them to skip to a specific track number during disc playback.

Using the FM Tuner

To listen to the FM radio:

- Press the Radio button on the remote control

– or –

- Press the Activity button on the remote and select Radio.

Before you can listen to the radio, the HS 280/HS 210 must first find the available radio stations in your area. Press the right cursor button (see *Cursor Controls*, page 10) to display the radio options.

Select Automatic Search. The HS 280/HS 210 will search for all receivable FM stations in your area and display a list of their broadcast frequencies.

This list will become your station-preset list. Use the up and down cursor buttons to scroll through the station list. As you scroll, the radio will tune to each highlighted station.

After approximately 20 seconds (or if you press the Enter button), the radio will remain tuned to the station, and the display will change to the radio dial.

To change stations while the radio dial is displayed, press the Channel +/– or the up and down cursor buttons. The radio will tune in to the next higher or lower station on the list.

To display the station preset list while the radio dial is on screen, press the left cursor button.

Radio Station Options

To show options for a highlighted station while the HS 280/HS 210 displays the radio-station list, press the right cursor button.

Highlight the option you want, then press the Enter button.

Search Up: Searches for the next receivable station above the highlighted station.

Search Down: Searches for the next receivable station below the highlighted station.

Step Up: Changes the highlighted station frequency up by 0.1MHz each time you press the Enter button.

Step Down: Changes the highlighted station frequency down by 0.1MHz each time you press the Enter button.

Capture Name: Captures the highlighted station's name and assigns it to the station's listing (if the station is broadcasting the data).

New: Creates a copy of the current preset (with the name "New").

Rename: Lets you use the remote's numeric buttons to assign your own name to the highlighted station.

Delete: Deletes the highlighted station from the list.

NOTE: To delete all of the stations from the list:

1. Press the Activity button.
2. Highlight Radio and press the right cursor button.
3. Select Delete All and press the Enter button.

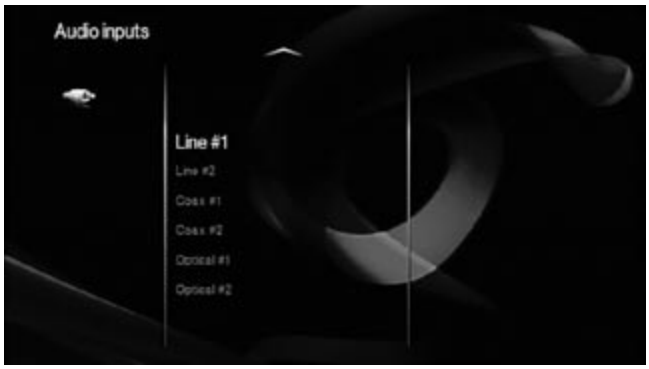
Add to Bookmark: Adds the highlighted station to your list of Bookmarks (see *Bookmarks*, on page 21, for more information).

Listening to Audio Sources

If you used the Settings menu to assign input connections to the remote's TV and Video buttons, the HS 280/HS 210 will automatically switch to those connections every time you press the remote's TV or Video button. See *Settings Menu: Audio Settings: TV Audio Input and Video Audio Input*, on page 19 and 20, for more information.

You can also manually select an audio component that you connected to any of the HS 280/HS 210's line inputs or digital inputs:

1. Press the Activity button
2. Select Audio Inputs. The input-connection list will appear.

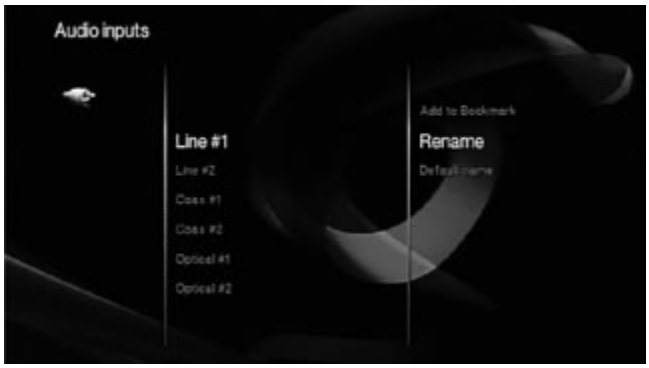


3. Highlight the input to which you connected the component and press the Enter button.

NOTE: If you connected your TV to the receiver using the SCART connection, the HS 280/HS 210 will automatically switch to the SCART input when the TV is turned on. See *Audio Settings/TV Audio Input*, on page 19.

If an audio input is selected when you put the receiver in the standby mode, it will automatically be the selected input the next time you turn the receiver on.

To make it easier to identify which component is connected to which input, you can rename any of the inputs. On the input connection list screen, (see above), highlight the input you want to rename, and press the right cursor button (see *Cursor Controls*, page 10). The options menu will appear.



Select Rename, and use the remote's numeric buttons to enter a different name for any of the inputs.

Playing Files from USB Devices

The HS 280/HS 210 can display JPEG picture files, play MP3 (up to 320kbps bit rate) audio files and show AVI, MP4 (up to 4Mbps bitrate) format video files stored on a USB device. To access files on a device connected to one of the HS 280/HS 210's USB ports:

- Press the USB button on the remote

– or –

- Press the Activity button on the remote and select USB. If you have more than one USB device connected, both device names will appear.

Select the device you want, and then navigate through the folders on the device to the media you want to view or hear.

To play an item, highlight and select the item from the list.

Viewing Pictures

Selecting a JPEG file displays the image on the TV. (A Pause indicator (❙❙) appears near the screen's upper-right corner).

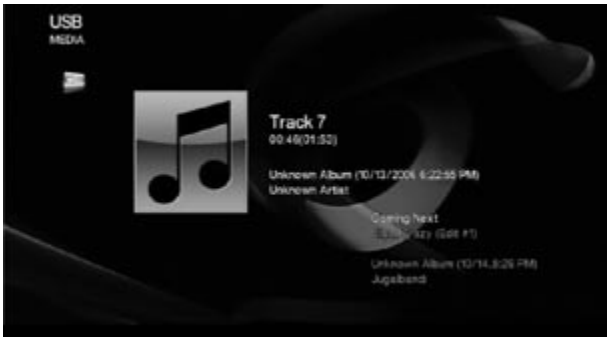
- To skip to the next or previous JPEG file, press the ▶▶I or I◀◀ button.
- To exit and return to the file list screen, press the ■ button.

Pressing the ► button while the HS 280/HS 210 displays an image initiates a slide show that displays each subsequent JPEG in the current folder, in alphabetical order by file name. The I◀◀ , ▶▶I and ■ buttons work in slideshow mode the same as when displaying individual JPEGs.

Note: You can change the amount of time each picture stays on screen during a slide show by pressing the right cursor button during the show.

Playing Music

Selecting an MP3 file plays the file. If other MP3s appear on the screen, the HS 280/HS 210 will play each one, in order as they appear on the screen.



If the selected MP3 file has an album-cover-art ID3 tag, the HS 280/HS 210 will display the art on the screen.

NOTE: If the folder contains a combination of MP3 and JPEG files, selecting an MP3 file without an album-cover-art ID3 tag will display the folder's JPEG files as a slideshow in the screen area reserved for showing album cover art.

Playing Videos

Selecting a video file plays the file. If other video files are listed on the screen, the HS 280/HS 210 will play each one, in order as they appear on the screen.

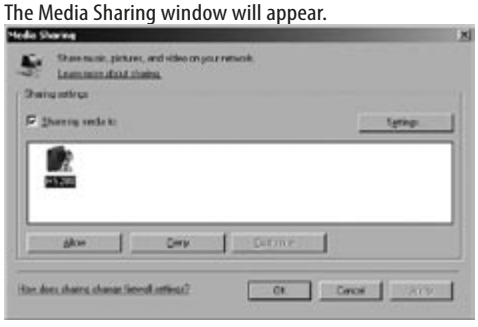
Playing Files from Networked Devices

The HS 280/HS 210 can display JPEG picture files, play MP3 audio files (up to 320kbps bitrate) and show AVI, MP4 (up to 4Mbps bitrate) video files stored on compatible devices that are on the network connected to the HS 280/HS 210's Ethernet jack. For the HS 280/HS 210 to interface with a networked device on the LAN, the device must be running UPnP-compliant media software such as Windows Media Player, MediaLink or EyeConnect. The HS 280/HS 210 does not support Ethernet connection through a proxy.

Sharing Files

Before you can access files located on other devices via the network, each device must first give permission to share files with the HS 280/HS 210. On a computer running Windows, you would use Windows Media Player:

1. On your computer, open Windows Media Player.
2. Open the Library menu and select Media Sharing.
   The Media Sharing window will appear.



3. Click in the Share My Media box, then click on the HS 280/HS 210 icon and select Allow, then select OK.

The device's media should now be available to the HS 280/HS 210.

NOTE: To enable media sharing with other types of computers, operating systems or UPnP media software, check the instructions for the computer, operating system or media player.

To access files on networked devices:

Press the Network button on the remote.
– or –
Press the Activity button on the remote and select Network. The names of all devices on the network that have given file-sharing permission will appear on the OSD. Select the device that has the media you want to access.

Select the type of media you want to view or hear.

Viewing Pictures

Selecting Pictures displays a list of all the different ways to access the picture media on the networked device.

Select a way to access pictures; then navigate to the pictures you want to view.

Selecting a JPEG file displays the image on the TV. (A Pause indicator appears near the screen's upper-right corner.)

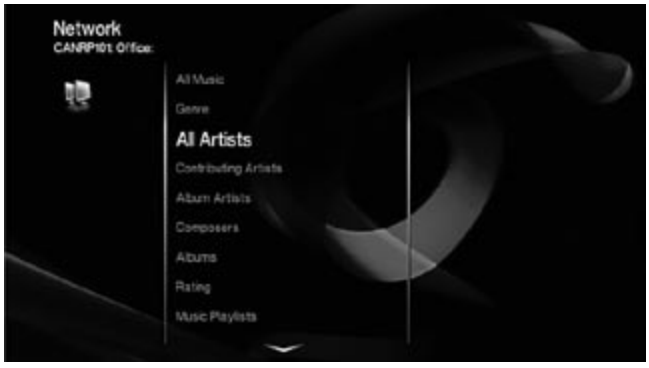
- To skip to the next or previous JPEG file, press the ▶▶I or I◀◀ button.
- To exit and return to the file list screen, press the ■ button.

Pressing the ▶ button while an image is being displayed initiates a slide show that displays each subsequent JPEG in the current folder in order as they appear on the OSD screen. The ▶▶I, I◀◀ and ■ buttons work in slideshow mode the same as when viewing individual JPEGs.

Note: You can change the amount of time each picture stays on screen during a slide show by pressing the right cursor button during the show. The available options are between one second and ten seconds.

Playing Music

Selecting Music displays a list of all the different ways to access the MP3 media on the networked device.



Select a way to access music; then navigate to the music you want to hear.

Selecting an MP3 file plays the file.

If there are other MP3s in the folder with the one that you've selected, the HS 280/ HS 210 will play each one, in order as they appear on the OSD screen.

- To skip to the next or previous MP3 file, press the ▶▶I or I◀◀ button. To pause play, press the ►/II button. To resume play, press the ►/IIbutton again.
- To exit and return to file list screen, press the ■ button.

Playing Videos

Selecting a video file plays the file. If there are other video files in the folder, the HS 280/HS 210 will play each one, in order as they appear on the OSD screen.

Troubleshooting

If your HS 280/HS 210 system isn't performing the way you think it should, check to see if the problem is covered in this section before calling your dealer or contacting Harman Kardon.

The receiver won't power up (the Power Indicator is not lit):

- Check that the receiver's AC Power Cord is properly plugged into the receiver's AC Power Input connector.
- Check that the AC power cord is plugged into a working AC outlet and that the AC outlet is not controlled by a switch.

Sound plays through the HS 280/HS 210 speakers, but there is no TV picture:

- Check the connection between the receiver and the TV.
- Check that the TV is turned on and is set to the proper input source.
- Confirm that all of the choices made in the Settings: Video menu are correct for your TV.
- If you're using the HDMI connection, be sure that the TV or video display is HDCP-compliant. If the TV is not HDCP-compliant, disconnect the HDMI cable and use the receiver's S-Video or composite-video connection.

There is no sound coming from the subwoofer:

- Check that the subwoofer's power cord is plugged into a working AC outlet.
- Check that the subwoofer's Power Switch is in the on position.
- Check that the Subwoofer Level Control is not turned all the way down (fully counterclockwise).
- Check the audio connection between the receiver and the subwoofer.
- Check the receiver's Settings: Audio: Subwoofer menu to make sure that the subwoofer volume has not been set at -10dB.

There is a constant hum in the sound:

- Check that all input cables are plugged all the way into their connectors.
- Check that all cables are at least 3m (9.8 ft.) from fluorescent lights.
- Check that all cable connectors are clean. If necessary, wipe them with a cloth slightly moistened with alcohol.
- Turn the subwoofer's Power switch off. If the hum goes away, there is a ground loop between the subwoofer and the receiver. Plugging the subwoofer's Power Cord into the same AC outlet that the receiver is plugged into should eliminate the ground loop.

The disc does not play:

- Check that the disc is inserted correctly (label-side up).
- Check that the disc is the correct type: DVD, DVD-R, DVD-RW, DVD+R/RW, VCD, SVCD, CD, CD-R/RW, MP3, WMA (v7and v8). Other disc types will not play.
- Check that the disc surface is clean and not scratched.

There is noise or other interference in the picture while the HS 280 is playing a DVD:

- Check that the disc surface is clean and not scratched.
- If you have the receiver's video output connected to your TV through your VCR, the copy-protection program on some DVDs could affect picture quality. Connect the receiver's video output directly to your TV's video input.

The sound and picture are out of sync:

- Check the Audio: Settings: Delay menu and change the Delay setting to put the sound back in sync with the picture.

The HS 280/HS 210 cannot tune in radio stations:

- Check that the FM antenna is correctly connected.
- Adjust the antenna's position. If necessary, use a powered FM antenna or an outdoor FM antenna.

The receiver does not respond to remote control commands:

- Replace all three of the remote control's batteries with fresh ones, and make sure to install them correctly.
- Hold the remote control closer to the receiver.
- Check that the receiver's remote sensor is in line of sight with the remote control. If necessary, use an optional Harman Kardon HE 1000 external IR receiver.

The remote does not control programmed components (TV or Video):

- Check that you have pressed the remote's TV or Video button before trying to operate the component.
- Re-learn the component's commands into the remote.

The Ø symbol appears on the screen when you press a remote control button:

- The selected function is not permitted at the time the button is pressed.

The receiver does not respond to commands, or behaves in an erratic way:

- Unplug the receiver's power cord from the AC outlet, wait 30 seconds, then plug it back in.

You can find additional troubleshooting information in the FAQs link on the Support page at www.harmankardon.com.

DVD Language Code List

The availability of specific languages for a DVD's main audio track or subtitles is dependent on the choices made by the disc's producer. You should always consult the disc's jacket for information on languages for any disc. You may be required to enter a code from the list below to access a particular language.

Language	Code
Abkhazian	ABK
Afar	AAR
Afrikaans	AFR
Albanian	ALB
Amharic	AMH
Arabic	ARA
Armenian	ARM
Assamese	ASM
Aymara	AYM
Azerbaijani	AZE
Bashkir	BAK
Basque	BAQ
Bengali	BEN
Bihari languages	BIH
Bislama	BIS
Bosnian	BOS
Breton	BRE
Bulgarian	BUL
Burmese	BUR
Catalan	CAT
Central Khmer	KHM
Chinese	CHI
Corsican	COS
Croatian	SCR
Czech	CZE
Danish	DAN
Dutch	DUT
Dzongkha	DZO
English	ENG
Esperanto	ESP
Estonian	EST
Faroese	FAO
Fijian	FIJ
Finnish	FIN
French	FRE
Gaelic	GAE
Galician	GLG
Georgian	GEO
German	GER
Greek, Modern (post 1453)	GRE
Guarani	GRN
Gujarati	GUJ
Hausa	HAU
Hebrew	HEB
Hindi	HIN
Hungarian	HUN
Icelandic	ICE
Indonesian	IND
Interlingua	INA
Inuktitut	IKU
Inupiaq	IPK
Irish	IRI
Italian	ITA
Japanese	JPN
Javanese	JAV
Kalaallisut	KAL
Kannada	KAN
Kashmiri	KAS
Kazakh	KAZ
Kinyarwanda	KIN
Korean	KOR
Kurdish	KUR
Kyrgyz	KIR
Lao	LAO
Latin	LAT
Latvian	LAV
Lingala	LIN

Language	Code
Lithuanian	LIT
Macedonian	MAC
Malagasy	MLG
Malay	MAY
Maltese	MLT
Maori	MAO
Marathi	MAR
Moldavian	MOL
Mongolian	MON
Nauru	NAU
Nepali	NEP
Norwegian	NOR
Occitan (post 1500)	OCI
Oriya	ORI
Oromo	ORM
Panjabi	PAN
Persian	PER
Polish	POL
Portuguese	POR
Pushto	PUS
Quechua	QUE
Romanian	RON
Romansh	ROH
Rundi	RUN
Russian	RUS
Samoan	SMO
Sango	SAG
Sanskrit	SAN
Serbian	SCC
Shona	SNA
Sindhi	SND
Sinhala	SIN
Slovak	SLO
Slovenian	SLV
Somali	SOM
Sotho, Southern	SOT
Spanish	SPA
Sundanese	SUN
Swahili	SWA
Swati	SSW
Swedish	SWE
Tagalog	TGL
Tajik	TGK
Tamil	TAM
Tatar	TAT
Telugu	TEL
Thai	THA
Tibetan	TIB
Tigrinya	TIR
Tonga (Nyasa)	TOG
Tsonga	TSO
Tswana	TSN
Turkish	TUR
Turkmen	TUK
Twi	TWI
Ukrainian	UKR
Urdu	URD
Uzbek	UZB
Vietnamese	VIE
Volapük	VOL
Welsh	WEL
Western Frisian	FRY
Wolof	WOL
Xhosa	XHO
Yiddish	YID
Yoruba	YOR
Zulu	ZUL

Specifications

HS 280/HS 210 Receiver

Audio Section

Continuous average power, stereo mode (FTC):
65 watts per channel, 120Hz – 20kHz, @ <0.3% THD, both channels driven into 6 ohms

Input sensitivity/impedance (line inputs): 240mV/47k ohms

Frequency response @ 1W (±3dB): 120Hz – 20kHz

Transient intermodulation distortion (TIM): <0.2%

FM Tuner Section

Frequency range: 87.5 – 108.0MHz

Usable sensitivity IHF: 3.0µV/14.7 dBf

Signal-to-noise ratio (mono/stereo): 65dB/60dB

Distortion mono/stereo: 0.3%/0.5%

Stereo separation: 40dB @ 1kHz

Selectivity ±400kHz: 65dB

Image rejection: 40dB

IF rejection: 70dB

DVD Player Section

Supported disc formats: 5-inch (12cm) or 3-inch (8cm) DVD Video, DVD-Audio, standard-conforming DVD-R, DVD+R, DVD-RW, DVD+RW, VCD, CD, CD-R, CD-RW, MP3 (up to 320kbps bitrate), or WMA (v7-v8) discs

Region code: 2

DVD layers: Single-side/single-layer, single-side/dual-layer, dual-side/dual-layer

Audio formats: Dolby Digital, linear PCM, MP3 (up to 320kbps bit rate), Windows Media 7 or 8

Still-image format: JPEG

Video signal system: NTSC or PAL

Composite-video output: IV p-p/75 ohms, sync negative polarity

S-Video output: Y/luminance: IV p-p/75 ohms, sync negative polarity; C/chrominance: 0.3V p-p

Frequency response: DVD (linear PCM): 20Hz – 22kHz, ±1.0dB, CD: 20Hz – 22kHz ±1.0dB

Signal-to-noise ratio: 90dB (A-weighted)

Dynamic range: DVD/CD: 92dB (16-bit)

THD/1kHz: DVD/CD: 0.01%

Wow & flutter: Below measurable limits

Video Section

Television format: Automatic or PAL (selectable)

Output level/impedance: 1.0Vp-p/75 ohms

Video frequency response: (composite and S-Video) 10Hz – 8MHz (–3dB)

HDMI™ version: 1.2

General

Power requirement: AC 100–240V ~ 50/60Hz

Power consumption: 300W maximum, 1W standby

Dimensions	Unit	Shipping
Height	98mm (3-7/8 inches)	197mm (7-3/4 inches)
Width	350mm (13-25/32 inches)	484mm (19-1/16 inches)
Depth	280mm (11 inches)	355mm (14 inches)
Weight	3.5kg (7.7 lb)	6.1kg (13.4 lb)

Depth measurement includes terminal connections. Height measurement includes feet and chassis.

Speaker System

Frequency response: 45Hz – 20kHz (-6dB)

SAT TS60 Satellites (for HS 280)

Recommended power: 10 ~ 120 watts

Impedance: 8 ohms nominal

Sensitivity: 86dB @2.83V/1 meter

Tweeter: One 19mm (3/4") dome, video-shielded

Midrange: Dual 75mm (3") flat-panel drivers, video-shielded

Dimensions:

Height	299mm (11-25/32 inches)
Width	110mm (4-11/32 inches)
Depth	88mm (3-15/32 inches)
Weight:	1.5kg (3.3 lb)

Height measurement includes removable stands.

SAT-TS11 Satellites (for HS 210)

Recommended power: 10 ~ 120 watts

Impedance: 8 ohms nominal

Sensitivity: 86dB @ 2.83V/1 meter

Tweeter: One 12mm (1/2") dome, video-shielded

Midrange: Dual 75mm (3") drivers, video-shielded

Dimensions:

Height	243mm (9-9/16 inches)
Width	100mm (3-15/16 inches)
Depth	92mm (3-5/8 inches)
Weight:	1.0 kg (2.2 lb)

HKTS200SUB Subwoofer

Input rating: AC 220–240V~, 50/60Hz, 200W

Amplifier power: 200 watts RMS

Woofer: 8" cone in a sealed enclosure

External trigger input voltage: 3 ~ 30 volts AC/DC

Dimensions:

Height	353mm (13-29/32 inches)
Width	267mm (10-1/2 inches)
Depth	267mm (10-1/2 inches)
Weight:	9.0 kg (19.8 lb)

Height measurement includes the product's feet.

Features, specifications and appearance are subject to change without notice.

Harman International

Harman Consumer Group, Inc.
8500 Balboa Boulevard, Northridge, CA 91329 USA
516.255.4545 (USA only)

www.harmankardon.com

Made in P.R.C.

©2010 Harman International Industries, Incorporated. All rights reserved.

Features, specifications and appearance are subject to change without notice.

Harman Kardon and CMMD are trademarks of Harman International Industries, Incorporated, registered in the United States and/or other countries.
Designed to Entertain is a trademark of Harman International Industries, Incorporated.

Dolby and the double-D symbol are registered trademarks of Dolby Laboratories.
EyeConnect is a trademark of Elgato Systems.
HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks of HDMI Licensing LLC.
Macintosh is a trademark of Apple Inc., registered in the United States and other countries.
This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights.
Use of this copyright protection technology must be authorized by Rovi Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Rovi Corporation. Reverse engineering or disassembly is prohibited.
Windows and Windows Media are registered trademarks of Microsoft Corporation in the United States and/or other countries.
WMA (Windows Media Audio) is a proprietary file format developed by Microsoft Corporation.

Part# 01.00.YS.SM1.E2589